

ANNUAL REPORT
OF THE
DEPARTMENT OF AGRICULTURE
OF THE
PROVINCE OF ALBERTA

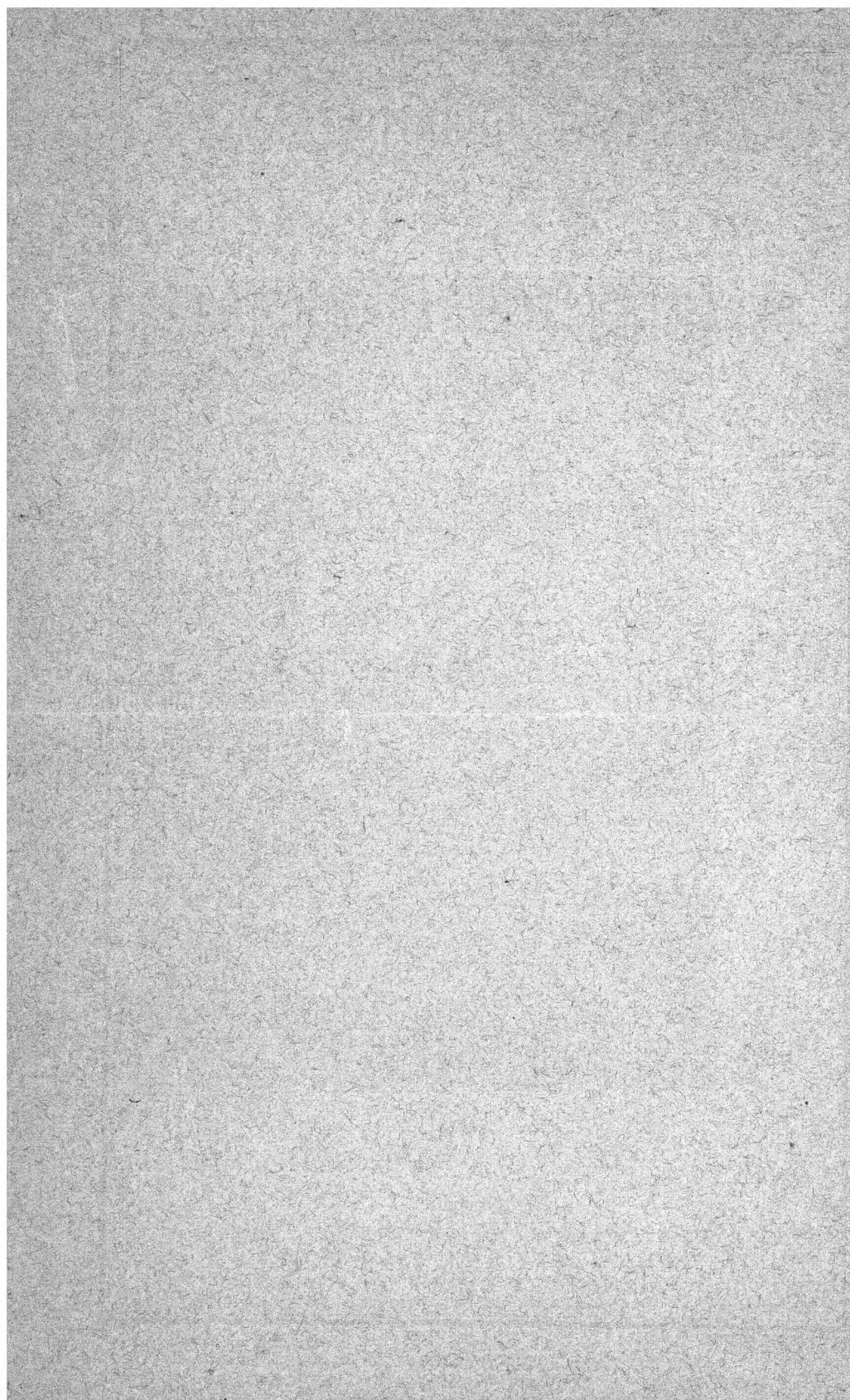
1909

PRINTED BY ORDER OF THE LEGISLATIVE ASSEMBLY



EDMONTON:
JAS. E. RICHARDS, GOVERNMENT PRINTER.

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HON DUNCAN MARSHALL, MINISTER OF AGRICULTURE.

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DEPARTMENT OF AGRICULTURE,
EDMONTON, January 28, 1910.

To His Honour
GEORGE HEDLEY VICARS BULYEA,
Lieutenant Governor of the Province of Alberta.

SIR,—

I have the honour to submit herewith the Report of the Department of Agriculture for the year 1909.

I have the honour to be, Sir,
Your obedient servant,

DUNCAN MARSHALL,
Minister of Agriculture.

REPORT
OF THE
DEPARTMENT OF AGRICULTURE

DEPARTMENT OF AGRICULTURE,
EDMONTON, January 26, 1910.

HON. DUNCAN MARSHALL, ESQ.,
Minister of Agriculture.

SIR,—I have the honour to submit herewith a report covering the work of the various branches of the Department of Agriculture for the year 1909. For convenience the report is arranged as follows:

1. Report of the Deputy Minister.
2. Report of the Dairy Commissioner.
3. Report of the Chief Inspector of Noxious Weeds.
4. Report of the Game and Fire Guardian.
5. Report of the Poultry Superintendent.
6. Report of the Recorder of Brands.
7. Report of the Superintendent of Fairs and Institutes.
8. Report of the Live Stock Commissioner.
9. Report of the Provincial Health Officer.
10. Report of the Sanitary Engineer.
11. Report of the Director of the Laboratory.
12. Appendices—
 - a*—Report of the Alberta Horse Breeders' Association.
 - b*—Report of the Cattle Breeders' Association.
 - c*—Report of the Swine Breeders' Association.
 - d*—Report of the Sheep Breeders' Association.
 - e*—Report of the Alberta Natural History Society.

I have the honour to be, Sir,

Your obedient servant,

GEO. HARCOURT,
Deputy Minister of Agriculture.

1.—REPORT OF THE DEPUTY MINISTER.

SIR,—The general work of the Department, aside from that of the various branches, covers such a wide range that it is somewhat difficult to make a classification under which all the work may be grouped as some of it is closely related to that carried on by the branches and yet sufficiently different to be really outside the work of the branch. For convenience in dealing with the general work of the Department it is thought best to group it under the following heads:

- I.—Live Stock.
- II.—Crops.
- III.—Immigration and Colonization.
- IV.—Museum.
- V.—Fruit Experimental Stations.
- VI.—Vital Statistics.
- VII.—Provincial Seed Fair.
- VIII.—Miscellaneous.

I.—LIVE STOCK

On the whole the winter of 1908-9 was a very favourable one for stock of all kinds. The year has been marked by freedom from any serious outbreak of disease and by the general excellent health of all stock. The officers of the Dominion veterinary service have been carrying out their system of inspection and disinfection for mange and have been keeping a sharp eye on all other contagious diseases wherever an outbreak has occurred.

The report of the Live Stock Commissioner deals with general conditions of the stock industry and fuller details of the season's work will be found therein.

ENROLMENT OF STALLIONS.

The provisions of The Horse Breeders Ordinance require the owner of every stallion, who stands his horse for profit or gain, to have him enrolled in the books of the Department. Under the authority vested in him by the Ordinance the Minister of Agriculture has decided that only those stallions recorded in the stud books kept under the authority of, or those foreign stud books approved and recognized by, the Canadian National Live Stock Records of Ottawa, shall be eligible for enrolment as pure bred stallions.

These Canadian stud books are as follows—

- Clydesdale Stud Book of Canada.
- Canadian Hackney Stud Book.
- Canadian Shire Horse Stud Book.
- Canadian Percheron Stud Book.
- Canadian Thoroughbred Stud Book.
- Canadian Belgian Draft Stud Book.
- French Canadian Horse Breeders' Stud Book.
- Canadian Pony Stud Book.
- Canadian French Coach Stud Book.
- Canadian Suffolk Horse Stud Book.

The following foreign stud books are recognized by the Canadian National Live Stock Records and stallions possessing registration in these records will be entitled to enrolment in the books of the Department as pure bred—

Cleveland Bay Stud Book.
 Yorkshire Coach Horse Stud Book.
 American Morgan Register.
 American Saddle Horse Register.
 American Trotting Register.
 Ostfriesisches Stutbuch.
 Stutbuch der Munsterlandisch-Oldenburgischen Geest.
 Oldenburger Stutbuch.
 Gestutbuch der Holsteinischen Marschen.

Grade certificates are issued for horses which are not of pure breeding, and those horses recorded in unrecognized stud books. A number of the latter have been presented during the past year.

Numerous stallion owners have been taken to task, and some fined, for not observing the clause in the Ordinance requiring stallion owners to post a copy of the enrolment certificate on the inside and outside of the door of every building in which the stallion stands regularly for service, and also for not having the same incorporated in all advertising matter.

The following is a summary of the stallions that have been enrolled during the past and preceding years:

TOTAL ENROLMENT OF STALLIONS IN PROVINCE

BREED	YEAR					
	1904	1905	1906	1907	1908	1909
Clydesdale	68	25	81	86	95	101
Percheron	16	10	35	56	52	54
Standard Bred	8	2	10	15	15	20
Shire	10	4	10	18	11	11
Hackney	5	1	2	8	8	10
French Draft	2	4	5	2	8	5
Thoroughbred	3	1	10	8	6	5
Suffolk	3	0	3	4	6	4
Belgian	1	0	2	9	5	3
French Coach	2	2	2	0	4	3
German Coach	0	0	0	2	2	0
American Saddle Horse	0	0	0	0	1	0
Cleveland Bay	0	0	1	0	0	0
French Canadian	0	0	1	0	0	0
Total Pure Breds	118	49	162	208	213	216
Total Grades	151	98	329	334	269	231
Total Enrolment	269	147	491	542	482	447

Total Enrolment in six years, Pure Bred 966

Total Enrolment in six years, Grade 1,412

Total 2,378

The total enrolments for the year show a slight decrease since last year, but as this decrease was in grade stallions it is rather a good sign than otherwise. Though small, it is gratifying to note the steady increase from year to year in the percentage of pure breds enrolled and the equally steady decrease of grades. The enrolment

for the year shows a total of 48.32 per cent. of pure breds against 51.68 per cent. of grades. It must be understood, however, that this does not represent the relative percentage of grade and pure bred horses in the province, as farmers using stallions in their own studs only, whether pure or grade, are not required to enroll them. Moreover, ranchers usually turn the stallions on the range and these are seldom enrolled.

ANIMALS RUNNING AT LARGE.

Under this heading is grouped a report on the workings of four Ordinances, namely, The Stray Animals Ordinance, dealing with the disposal of animals found on the premises of parties other than their owner; The Entire Animals Ordinance, providing for the safety of breeding stock on the open range by prohibiting the running at large of stallions over one year, and bulls over nine months old; The Herd Ordinance (applicable only in a limited area), providing for the fencing in of all stock during the crop season, thus reducing the amount of fencing required; and The Pound Districts Ordinance, under the provisions of which farmers in well settled districts can regulate the running at large of all animals by impounding those not under proper control and assessing damages where it breaks through a lawful fence.

While these Ordinances may have met the conditions that existed in the days of extensive open range, they do not now fully meet the altered conditions that have arisen through the rapid settlement that has taken place in all parts of the province during recent years. Numerous changes have been proposed to all of them, but it is deemed inadvisable to make any alterations until local municipalities are formed throughout the province, when the whole four Ordinances can be consolidated in one law laying down general uniform conditions governing the handling of animals running at large, and leaving certain other matters to be settled by the residents of each municipality for themselves. It is hoped that at an early date it will be possible to bring such a law into effect, as it will save a great deal of loss and prevent a vast amount of heart burning.

THE STRAY ANIMALS ORDINANCE.

Owing to the inability of many new settlers to correctly read the brand on an estray animal, considerable loss has been sustained by ranchers through their stock being taken up as estrays and sold, frequently only short distances away, under an incorrectly described brand. In order to avoid such losses as far as possible the Ordinance was amended by providing for the appointment of men experienced in the reading of brands to give a correct description of all estray animals before the notice was inserted in the Official Gazette. The man making the examination is called a "brand reader" and is entitled to a fee of \$2.00 for each inspection, and to ten cents a mile for the mileage he travels over ten miles, but not exceeding thirty miles. Such charge must be paid by the owner of the animal if found, otherwise it is deducted from the money received from the sale of the animal by public auction.

The provisions of the Stray Animals Ordinance require the finder of an estray animal, which cannot be driven away from his premises, to notify the owner, if the owner is known to him. If the owner is not known or refuses to remove the animal upon being notified, the Ordinance requires the finder to call in the nearest brand reader.

whose duty it is to send a full and complete description of the animal to the Department of Agriculture. This notice is published in two consecutive issues of the Gazette, and if no claimant appears within two months after the insertion of the first notice, the animal is sold by a justice of the peace. The proceeds of this sale are forwarded to the Department of Agriculture, minus the justice's and finder's expenses allowed for in the Ordinance. The balance thus sent to the Department is placed in a general trust fund for one year and can be refunded to the owner of the estray upon satisfactory proof of ownership being sent to the Department. If no claim is made within one year the money is transferred to the general revenue of the province from whence it cannot be withdrawn.

During the year 574 head of cattle, 402 head of horses, 3 sheep, and 12 swine were advertised in the Supplement to the Gazette. Of this number 119 cattle, 79 horses and 1 pig were sold. The remainder of those advertised were reclaimed by the owners.

The following is a statement showing the number of animals sold, when, by what justice, amount received, and amount forwarded to the Department:

SALES OF ANIMALS UNDER THE STRAY ANIMALS ORDINANCE, 1909.

JUSTICE	ADDRESS	CLASS OF ANIMAL	Date of Capture	First Gazette Notice	Date of Sale	Proceeds of Sale	Amount Sent to Department
Adam, François.....	Canrose	Steer, red, yearling, right ear split, no visible brand	Nov. 15, 1908	Jan. 30, 1909	Mar. 17, 1909	\$10 50	..
"	"	Pony, gelding, bay, 3 legs white, weight about 700 lbs., right ear split, branded D 2 on flank	Dec. 1, 1908	Mar. 15, 1909	May 14, 1909	15 00	\$ 3 77
"	"	Cow, black, with white on belly, left horn broken off, blind in left eye, bob tail, indistinct brand on left rump, calf at foot, one month old	Jan. 1908	June 15, 1909	Aug. 17, 1909	27 50	14 70
H. B. Atkins...	Didsbury.	Steer, red, branded reversed F, R on right ribs, wattle on right neck, age four years	Jan. 8, 1908	Feb. 15, 1908	May 12, 1908	45 00	33 65
"	"	Steer, muley, red, branded bar T S, on left ribs, age 4 or 5 years	Jan. 8, 1908	Feb. 15, 1908	May 12, 1908	45 00	33 63
"	"	Pony, brown, white spot on face, branded round topped T up and down on right shoulder	Jan. 8, 1908	Feb. 15, 1908	May 12, 1908	36 00	24 63
Barber, F. H....	Vermilion	Cow, black, muley, white on belly, branded 2 P-w-look, hat over	Dec. 10, 1908	Feb. 27, 1909	Nov. 6, 1909	26 00	19 30
Bennett, H. W.	Puffer...	Cow, roan, spotted, branded 2 X quarter circle below, with red ball calf at foot	Nov. 7, 1908	Aug. 31, 1909	Nov. 1, 1909	30 70	16 95
Benson, John.	Medicine Hat . . .	Mare, black, no visible brand	Oct. 1908	Oct. 31, 1908	Apr. 24, 1909	15 00	12 62
"	"	Pinto gelding, no visible brand	Oct. 1908	Oct. 31, 1908	Apr. 24, 1909	15 00	11 62
"	"	Mare, brown, branded reversed flying E, A on left side	Oct. 1908	Oct. 31, 1908	Apr. 24, 1909	16 00	10 60
"	"	Gelding, grey, branded flying S on right thigh	Oct. 1908	Oct. 31, 1908	Apr. 24, 1909	16 00	10 60
"	"	Steer, red and white, age 3 years, right ear cropped off square, left ear split, no visible brand	Oct. 1908	Dec. 31, 1908	May 13, 1909	15 00	5 05
"	"	Gelding, chestnut, aged, branded H quarter circle over quarter circle under on left shoulder	Nov. 1908	June 30, 1909	Sept. 25, 1909	70 00	62 40
Bertrand, C. A	Mayville	Mare grey, age about 6 years, yearling colt at foot, no brands visible	Nov. 1908	June 30, 1909	Sept. 25, 1909	197 00	186 58
Biddell, I. J..	Cowley..	Steer, red, star in forehead, no horns, age two years, blurred brand on left hip resembling 16 bar over	Apr. 5, 1909	Apr. 30, 1909	July 16, 1909	22 00	8 75
"	"	Mare, bay, hind feet white, spot on nose, wire cut on left fore leg, branded quarter circle, bar under, upper quarter circle under, on left thigh, and A over script T H Y bar under on left shoulder	Feb. 1, 1909	Feb. 15, 1909	May 4, 1909	48 00	42 40
Bjorkblad, Carl	Bawlf	Heifer, red, ears clipped or frozen off, one horn broken, no visible brands	Oct. 1, 1908	Dec. 15, 1908	Feb. 25, 1909	21 00	8 08
"	"	Heifer, roan, three years old, no visible brand	Oct. 1, 1908	Dec. 15, 1908	Feb. 25, 1909	18 50	5 64
Blackwood, Chas.	Templeton .	Pony mare, bay, star in forehead, bad leather halter on, no visible brand	June 1, 1909	Dec. 15, 1909	Sept. 15, 1909	27 00	22 00
Blair, R. F....	Dewberry ..	Heifer, red, age two years, no visible brand	Nov. 1, 1908	July 15, 1909	Mar. 17, 1909	18 50	5 30
Bleay, Richard	Evarts ..	Filly colt, bay, weight 550 lbs., no visible brand	Nov. 1, 1908	Feb. 15, 1909	May 12, 1909	14 00	65
Boyle, R. L.	Crossfield..	Cow, red and white, branded bar 7 L on right hip, unbranded calf at foot	Jan. 15, 1909	Feb. 27, 1909	May 15, 1909	33 50	14 02
"	"	Heifer, black and white, two years old, no visible brand	Jan. 15, 1909	Feb. 27, 1909	May 15, 1909	23 50	12 68
Brewster, Jas. I.	Bowden	Pony mare, white, branded I D on left shoulder	Dec. 1907	Dec. 31, 1908	June 26, 1909	20 00	8 45
"	"	Yearling colt of above mare, stallion, brown, half white face	Aug. 1907	Dec. 31, 1908	June 26, 1909	14 00	2 65
Brox, Dan ...	Spruce Grove ..	Steer, red and white, two years old, no visible brands	Aug. 1907	Oct. 15, 1908	Mar. 2, 1909	15 50	4 00

[illegible]

SALES OF ANIMALS UNDER THE STRAY ANIMALS ORDINANCE—Continued.

JUSTICE	ADDRESS	CLASS OF ANIMAL	Date of Capture	First Gazette Notice	Date of Sale	Procs of Sale	Sent to Department
Downie, Simon	Carstairs	branded inverted U over flying L connected, followed by C, all on right hip.	Dec. 1, 1908	Jan. 30, 1909	May 17, 1909	32 50	21 10
		Steer, red, with some white, age two years, no visible brand	July 8, 1909	Aug. 31, 1909	Oct. 23, 1909	24 00	20 40
Duffus, Arthur	Calgary	Mare, grey, age about 3 years, weight about 1,200 lbs., no visible brands.					
"	"	Steer, red, long horns, age 6 years, branded U S on right hip	" " 1904	July 31, 1908	Nov. 10, 1909	103 00	96 32
"	"	Mare, cayuse, bay, branded C V on right hip, colt at foot	Aug. 10, 1908	Sept. 30, 1908	Jan. 6, 1909	22 00	14 80
"	"	Heifer, black, polled, 3 years old, no visible brand	Aug. 10, 1908	Aug. 31, 1908	Mar. 23, 1909	20 00	14 83
"	"	Heifer, black, polled, 2 years old, no visible brand	Aug. 10, 1908	Aug. 31, 1908	Mar. 23, 1909	16 00	10 83
"	"	Steer, black, polled, yearling, no visible brand	Aug. 10, 1908	Aug. 31, 1908	Mar. 23, 1909	11 25	6 08
Edgeworth, A	Foreman	Steer, black, white spots on forehead, no visible brands	Aug. 10, 1908	Aug. 31, 1908	Mar. 23, 1909	12 25	7 08
		Heifer, light red, age six months, end of right ear cropped, slanting crop on lower side of left ear, no visible brands	Aug. 10, 1908	Aug. 31, 1908	Mar. 23, 1909	16 00	10 83
Faul, J B	Twin Butte.	Gelding, dark bay, star on forehead, weight about 800 lbs., age ten or twelve years, brand appears to be a double anchor on left shoulder.	Oct 1908	Feb 15, 1909	June 7, 1909	10 00	"
"	"	Gelding, dark brown, age about 6 years, weight about 950 lbs, branded J R on left thigh and 71 on left jaw	Nov 1, 1908	Dec 15, 1908	Feb 12, 1909	15 00	7 25
Faulkner, A E	Noelton	Filly colt, bay, no visible brand	Nov. 1908	Feb 27, 1909	Apr 27, 1909	60 00	54 20
"	"	Heifer, red, age two years, branded I inverted U bar on left ribs	Mar. 1908	Dec. 15, 1908	Feb. 11, 1909	18 00	5 25
"	"	Steer calf, red, white spots on forehead, no visible brands	Sept 1908	Jan 15, 1909	Mar. 12, 1909	18 00	5 30
"	"	Steer, milky, red, yearling, no visible brands	"	Dec. 31, 1908	Mar. 23, 1909	6 00	"
Fleming, John.....	Vegreville.	Mare, pony, roan, age about 12 years, branded back flying bar connected to O on left neck, and reversed flying S on left li.)	"	Jan 15, 1909	Mar. 23, 1909	10 00	"
Fleming, R. D	Canrose	Heifer, red, yearling, no visible brands	Sept. 1908	Feb. 27, 1909	Apr. 22, 1909	28 00	15 00
		Heifer, roan, yearling, no visible brands	Jan. 1909	Mar. 15, 1909	May 17, 1909	9 92	"
		Heifer, red, with white under belly, age about 12 months, no visible brand.	Oct. 1908	Dec 31, 1908	Mar. 8, 1909	6 00	"
Fleming, A. W	Heather Brae.	Cow, large, red, striped, white legs, big horns, no visible brands, calf born before sale	"	"	"	"	"
Forster, J. H..	Stony Plain	Steer, red, milky, four white steel in, and a little white on belly, age 3 years, no visible brand	Nov. 1, 1908	Jan. 15, 1909	Apr. 17, 1909	20 25	6 10
George, F. W. B....	Macleod.	Gelding pony, bay, white snip on nose, two white feet, age 6 years, slightly loosed, branded inverted script V under and connected to lazy C on right hip.	Dec. 1, 1908	Mar. 15, 1909	May 5, 1909	18 00	5 30
Graham, J. H.	Brownfield	Steer, red and white, dehorned, age 2 years, no visible brands	Sept. 23, 1909	Sept 30, 1909	Nov. 27, 1909	21 50	11 95
"	"	Steer, red and white, with horns, age 2 years, branded Y H quarter circle under on right hip.	"	Jan 15, 1909	Mar. 22, 1909	26 00	14 81
"	"	Steer, brindle, with horns, age 2 years, branded rowlock up and down, bar under, on left hip.	"	"	Mar. 22, 1909	35 00	23 81
Graham W H	Lake View.	Steer, red, age 5 years, single slit in dewlap, branded bar over D S	"	Jan. 15, 1909	Mar. 22, 1909	35 00	23 81

Gray, W. B.	Stettler ..	on right rib	Dec.	1906	Dec. 15, 1908	Feb. 27, 1909	25 00	11.73
"	"	Gelding, chestnut, white face four white feet, crippled in right shoulder, age about 8 years, no visible brands	Oct. 1, 1908		Dec 30, 1908	Mar. 6, 1909	40 00	27.10
"	"	Gelding, brown, branded 19 on right shoulder	May 20, 1908		Dec 31, 1908	Mar. 20, 1909	23 00	8 63
"	"	Steer, red, with a little white, rising 4 years old, has horns, both ears slit, branded H Y on right shoulder	Dec. 24, 1908		Feb. 15, 1909	Apr. 17, 1909	51 00	37 93
"	"	Steer, red, has horns, age 4 or 5 years, branded 2 W on right hip	Dec 24, 1908		Feb. 15, 1909	Apr. 17, 1909	15 00	1 93
Hamilton, J	Andrew	Gelding, brown, star in forehead, white spot on nose, foretop cut, tail docked, age about 8 years, branded two half circles around G, bar under, and K under the bar, on left shoulder	Oct 20, 1908		June 15, 1909	Aug. 25, 1909	77 50	73 35
Hallman, J	Airdrie	Mare, bay, white star on forehead, 2 white feet, hind, age about 17 years, no visible brand	Nov 15, 1908		Apr. 30, 1909	June 18, 1909	18 00	10 60
Hazell, E..	Mountain View	Sow, white, short ears, no visible brand	May 12, 1909		Sept. 15, 1909	Nov. 26, 1909	12 00	.70
Hastings, H. I	Hastings Coulee	Cow, black, branded circle with two bars through, on left ribs, calf born before sale	Apr. 1908		May 15, 1908	Jan. 12, 1909	24.50	15 95
Hastings, H. I	Hastings Coulee	Cow, light red, right horn droops, left horn broken, about 7 years old, red, right calf at heel, no visible brands	Jan 4, 1909		Jan 15, 1909	Mar. 20, 1909	32 25	13.33
Henry, C. E	Hastings Coulee	Steer, red, rising 3 years old, no visible brand	Dec 20, 1908		Mar 15, 1909	May 2, 1909	17 50	4.80
	Vermilion, changed to Wainwright.	Steer, red, rising 2 years old, branded inverted G, 9, bar, on right ribs	Dec 20, 1908		Mar 15, 1909	May 2, 1909	17 50	4.80
"	"	Mare, pony, light bay, blazed face and three white feet, age 4 to 6 years, donkey stripe along back, no visible brands	June 15, 1908		Sept 30, 1908	May 10, 1909	60 00	42 75
"	"	Mare, bay, weight about 900 lbs., branded 3 quarter circle over on left thigh, branded 50 on left hip	May 1908		Nov. 14, 1908	May 15, 1909	75 50	42 40
"	"	Gelding, sorrel, branded 50 on left hip and I, X on left shoulder	May 1908		June 15, 1909	Aug 27, 1909	25 00	10 15
"	"	Mare, brown, blotched brand on left shoulder which looks like irregular rectangle with half circle over connected, white spot in forehead, no visible brands	May 1908		June 15, 1909	Aug 27, 1909	25 00	10 15
Hodsen, S. R	Okotoks..	Gelding, brown, star in forehead, age about 9 years, weight about 800 lbs., no visible brands	Mar 1, 1909		June 30, 1909	Sept. 29, 1909	80 00	71.25
"	"	Gelding, bay, black points, weight about 1,000 lbs., no visible brands	Oct. 1, 1908		Nov. 14, 1908	Jan. 16, 1909	24 00	17 80
"	"	Gelding, sorrel, weight about 1,000 lbs., branded JI on right thigh and half diamond up with bar drooping from point	1903		June 15, 1908	Apr. 20, 1909	46 00	38 10
"	"	Gelding, grey, branded N on left shoulder	May 1, 1908		Mar 15, 1909	June 12, 1909	70.00	62 75
"	"	Mare, bay, branded bar 1 over and 1 under on left shoulder, also lazy T, O connected on left jaw...	May 1, 1908		Mar. 15, 1909	June 12, 1909	130.00	121 25
"	"	Yearling colt, little white on forehead, and between forelegs, rising 3 years old, no visible brands	July 15, 1907		Mar. 31, 1909	June 19, 1909	15 00	6 75
"	"	Cow, light red, little white on forehead, and between forelegs, rising 3 years old, no visible brands	July 15, 1907		Mar. 31, 1909	June 19, 1909	10.00	2.00
"	"	Calf, red, bull, born to above cow before sale, between hips, also under belly, no visible brands	Apr. 15, 1906		Mar 31, 1909	Sept. 20, 1909	23 00	14 75
"	"	Cow, light red, turned down horns, quite a bit of white on back	Apr. 15, 1905		Mar. 31, 1909	Sept. 20, 1909	12 00	4 00
"	"	Heifer calf, red and white, apparently with above cow, no visible brands	May 1, 1908		Mar. 15, 1909	June 12, 1909	40 00	33 75
Hotchkiss, C. S.	Clareholm	Mare, bay, branded reversed s on left hip, and X 7 on right shoulder	May 20, 1907		Sept. 30, 1908	May 6, 1909	16 00	7 30
"	"	Heifer, red and white, slit in right ear, age about 2 years, no visible brands	May 1908		May 31, 1909	July 28, 1909	8 00	2.20
"	"	Cow, red, big lump on right knee, aged appears to be P mono-gram H A.	May 1908		May 31, 1909	July 28, 1909	8 00	2.20
Huston, W. C	Morningside....	Heifer, light red, triangular shaped white mark on forehead, similar mark but smaller behind each ear, short white stripe on back.	May 1908		May 31, 1909	July 28, 1909	8 00	2.20

SALES OF ANIMALS UNDER THE STRAY ANIMALS ORDINANCE—Continued

JUSTICE	ADDRESS	CLASS OF ANIMAL	Date of Capture	First Gazette Notice	Date of Sale	Proc'ds of Sale	Sent to Department
Iddings, T. A.	Rimby.	Heifer, dark red, little white on underline and flanks, age about 18 months, no visible brands.	Dec. 1, 1908	Dec. 31, 1908	Mar. 23, 1909	12 00	
Jennings, G. R. ..	Athabasca Landing	Gelding, dark brown, star in forehead, 3 white feet, cropped mane, and forelock, no visible brand.	Nov. 1, 1908	Feb. 27, 1909	Apr. 20, 1909	17 00	5 38
Jaques, Norman. .	Ingletton. .	Mare, buckskin, white star, right hind foot white, black mane and tail, age 8 or 9 years, weight about 900 lbs., no visible brands.	Aug. 15, 1908	Dec. 31, 1908	Mar. 13, 1909	19 00	5 85
Kerrison, F. W.	La C La Nonne. .	Mare, sorrel, in foal, weight about 600 lbs., branded left quarter circle, M, right quarter circle, on right shoulder.	Nov. 1, 1908	Apr. 30, 1909	June 26, 1909	47 50	43 30
Layton, S. J.	Faber.	Gelding, roan, 8 years old, branded upright bar, all on left parallel bars on right side near foot of upright bar, all on left shoulder, star in forehead, left hind foot white, weight about 800 lbs.	Nov. 15, 1908	Feb. 15, 1909	Apr. 8, 1909	31 00	16 22
Legate, R. P.	Cadogan.	Mare, bay, white stripe in forehead, hind feet white, no visible brand.	May 1, 1909	June 30, 1909	Sept. 13, 1909	16 00	11 05
Landley, T. P.	Stony Plain.	Cow, white and brown, left horn broken down, 4 or 5 years old, weight 1,000 to 1,100 lbs., no visible brands.	May 15, 1909	July 15, 1909	Sept. 28, 1909	94 50	88 32
Loader, G. A.	Harland. .	Gelding, dark roan, weight about 800 lbs., branded two horizontal bars with verticle bar dropping through, on left shoulder, and J C bar through on left hip.	Dec. 1908	Mar. 15, 1909	May 22, 1909	13 00	
McDonell, Angus. .	Ray.	Steer, brown, few white spots, coming 3 years old, indistinct brand on right hip.	Oct. 30, 1908	Jan. 30, 1909	June 9, 1909	30 00	16 08
McDonald, J. S. .	Heather Brae. .	Steer, red, age 2 years, horns cut off, about 3 inches from base, no visible brands.	Nov. 15, 1908	Dec. 31, 1908	Apr. 12, 1909	14 50	06
"	"	Gelding, pony, bay, white face, both hind feet and left front foot white, weight about 700 lbs., appears to be branded crowfoot on left shoulder.	Aug. 1908	Dec. 15, 1908	Feb. 20, 1909	13 50	
"	"	Mare, bay, left hind foot white, star in forehead, white spot on nose, collar marks, age about 10 years, weight about 1,300 lbs., no visible brands.	June 1908	Nov. 30, 1908	Feb. 15, 1909	41 00	26 83
McKenty, Jno.	Lacombe.	Mare, bay, 8 or 9 years old, very sway-backed, branded Y over E, connected, on right shoulder, small unbranded colt at foot.	July 8, 1909	Sept. 15, 1909	Nov. 25, 1909	115 00	105 24
"	"	Mare, sorrel, star, small white stripe on nose, age 3 or 4 years, branded half diamond over Y on left shoulder, small unbranded colt at foot.	Apr. 22, 1908	Nov. 30, 1908	Jan. 23, 1909	38 00	18 05
McLean, Daniel.	"	Steer, black, muley, age about 2 years, cut in one ear, no brand visible.	Apr. 22, 1908	Nov. 30, 1908	Jan. 23, 1909	36 00	12 93
"	Star.	Heifer, red and white, 3 years old, no brand visible.	Aug. 1, 1908	Nov. 14, 1908	Feb. 27, 1909	17 00	4 55
"	"	Cow, muley, red, age four years, no brands visible.	July 1, 1908	Nov. 14, 1908	Jan. 21, 1909	20 00	7 80
McLeod, J. B.	Flagstaff. .	Steer, red, yearling with horns, no visible brands.	June 1, 1909	Nov. 14, 1908	Feb. 8, 1909	13 00	.37
Melin, O. C.	Calmar. .	Mare, bay, left hind foot white, age about 4 years, weight about 850 lbs., foretop clipped, branded Y, connected, on left flank.	June 20, 1909	Jan. 30, 1909	Apr. 17, 1909	15 00	
"	"	Gelding, sorrel, white stockings on left front and hind legs, white spots like saddle galls on right side, age 1 year, no visible brand.	July 1, 1908	Aug. 31, 1908	Mar. 22, 1909	35 00	20 35
Mills, H. D.	Wetaskiwin. .	Cow, red, white star on forehead, white belly and tail, straight	May 1, 1909	July 15, 1909	Aug. 28, 1909	30 00	23 00

SALES OF ANIMALS UNDER THE STRAY ANIMALS ORDINANCE—Continued.

JUSTICE	ADDRESS	CLASS OF ANIMAL	Date of Capture	First Gazette Notice	Date of Sale	Procs'ds of Sale	Sent to Department
Short, J.	Horse Hills.	Gelding, light chestnut, three white feet, white nose, dark spot on left hip, weight about 1,000 lbs., no visible brands	Oct. 1908	Feb. 15, 1909	Apr. 15, 1909	34 00	21 05
Smith, F. C.	Lamont.	Mare, brown, star in forehead, little white on hind legs just above hocks, crippled in right front leg, age about 12 years, weight about 1,200 lbs., no visible brand	Dec. 1, 1908	Apr. 30, 1909	July 24, 1909	76 00	59 10
Stacey, T. J.	Fort Saskatchewan.	Cow, black, no horns, with calf at heel, coming two years old.	Nov. 15, 1908	Mar. 15, 1909	May 25, 1909	27 00	3 90
Stephanson, S. G.	Markerville.	Steer, red, coming two years old, no visible brand	Nov. 15, 1908	Mar. 15, 1909	May 25, 1909	5 00	2 88
Stone, Jas.	Blackfoot Hills.	Steer, yearling, red, white spot on breast, no visible brand	Nov. 15, 1908	Feb. 15, 1909	Apr. 27, 1909	15 75	16 70
Struthers, R. H.	Bassano.	Steer, red and white, with horns, brand indistinct	June 15, 1908	Dec. 31, 1908	Mar. 30, 1909	30 00	
Sutherland, Geo.	Namao.	Gelding, buckskin, weight about 800 lbs., branded lazy B crossfoot under, on right shoulder	June 1, 1909	June 1, 1909	Oct. 12, 1909	35 00	31 90
"	"	Cow, red, half of tail white, some white on belly, horns, about 5 years old, no visible brand	June 15, 1908	Dec. 31, 1908	Feb. 13, 1909	21 00	8 33
"	"	Heifer calf, roan, evidently belongs to the above cow, no visible brand	June 15, 1908	Dec. 31, 1908	Feb. 13, 1909	10 00	2 65
"	"	Heifer, red and white, some white on face, roan spots, horns, no visible brand	June 15, 1908	Dec. 31, 1908	Feb. 13, 1909	12 50	.05
"	"	Cow, red, some white under breast, and on flank, white on forehead, horns, 3 years old, no visible brand	June 15, 1908	Dec. 31, 1908	Feb. 13, 1909	18 00	5 40
Trenaman, J. C.	Trenville.	Cow, black, left horn turned down, no visible brand	Nov. 1908	Dec. 31, 1908	Mar. 10, 1909	20 00	7 80
Turner, W. E.	Ponoka.	Gelding, grey, weight about 900 lbs., branded H I and a blotched letter on right shoulder	Jan. 2, 1909	Feb. 15, 1909	May 1, 1909	54 00	38 90
Wallace, J.	Red Deer.	Steer, dark red or brindle, age about 2 years, branded rowlock, inverted Y bar under, on left shoulder	Nov. 1908	Feb. 15, 1909	Apr. 10, 1909	27 00	12 20
"	"	Steer, 4 white feet, white on face, tail, and under belly, age two years, indistinct brand on left shoulder	Dec. 1908	Feb. 15, 1909	Apr. 24, 1909	8 00	
"	"	Steer, red, about 3 years old, branded R S on left ribs	Dec. 1908	Mar. 15, 1909	July 3, 1909	4 00	
"	"	Mare, black, branded 4 followed by a cross on left shoulder	Dec. 1908	Sept. 30, 1909	Dec. 18, 1909	14 75	5 17
"	"	Mare, brown, branded on end of right shoulder with what looks like a pair of spectacles, a similar brand on left shoulder	July 1909	Sept. 30, 1909	Dec. 18, 1909	14 75	5 17
Wells, Geo. A.	Whitebrush.	Heifer, black, white belly, white spots on front of hind feet, small horns, rising 2 years old, no visible brand	Nov. 15, 1908	Feb. 27, 1909	May 15, 1909	21 00	8 05
"	"	Mare, brown, small star in forehead, age about 4 years, weight about 700 lbs., branded C over inverted reversed F, connected, on left shoulder	June 1908	Mar. 31, 1909	June 25, 1909	25 00	15 17
"	"	Gelding, cayuse, black, coming 2 years old, branded T on ribs	Nov. 30, 1908	Mar. 15, 1909	June 5, 1909	20 00	11 00
Wittmann, A. C.	Ranfurly.	Two steers, red with white markings, both have horns, about 3 years old, indistinct brand on left shoulder of each which looks like O P or O R, both wild	Aug. 1908	Sept. 30, 1908	Jan. 19, 1909	61 00	37 49
Wilcox, Jno. B.	Manfred.	Cow, red and white, outside of ears white, inside of ears red, red and white yearling calf at side, no visible brands on either	1905	Dec. 31, 1908	Mar. 17, 1909	31 00	9 34
"	"	Mare, bay, star on forehead, white spot on nose, left hind foot white, age 6 or 7 years, weight about 900 lbs., branded inverted T over V half circle with ends connected by bar under, on left shoulder, and Maltese cross quarter circle over, on left hip	June 1908	Dec. 31, 1908	Apr. 3, 1909	100 00	85 45
"	"	Heifer, roan, coming 2 years old, no visible brand	1908	Feb. 27, 1909	May 22, 1909	15 00	4 95
Worsley, G. S.	Edmonton.	Cow, red, white face, right horn broken off, age about 4 years, branded C P on right hip	Nov. 15, 1908	Apr. 30, 1909	Dec. 14, 1909	17 50	9 57

ANNUAL REPORT, 1909

ENTIRE ANIMALS.

The provisions of The Entire Animals Ordinance prohibits the owner of any stallion over one year of age from allowing his horse to run at large in any part of the province at any time. When these stallions are found running at large they may be captured, advertised in two consecutive issues of the Official Gazette, the same as estrays, and sold within twenty days after the first notice has been published. The provisions of the Ordinance also prohibit the owners of bulls that are over nine months of age from permitting such bulls to run at large in the province, with the exception of those parts which have been set aside as bull districts, under clause 2 of section 4 of the Ordinance. This clause makes provision whereby the Minister of Agriculture can, by publication in the Official Gazette, proclaim certain districts as bull districts. In such districts bulls may run at large between the 1st day of July and the 31st day of December, without being captured. When a bull is captured he is advertised and sold, the same as a stallion.

The following is a list of the bull districts created up to December 31st, 1909:

District No. 1.—All that part of the province lying south of township 34.

District No. 2.—All that part of the province north of township 33, and east of range 11, west of the fourth meridian.

District No. 3. —Townships 51, 52 and 53 in range 17 west of the fourth meridian.

District No. 4. —Township 34 in ranges 2 and 3 west of the fifth meridian.

District No. 5. —That part of the province bounded on the north by township 42, on the east by range 10, on the south by township 33, and on the west by the Red Deer River, as far north as township 36, to a point where the river crosses at range 22, then by range 22 as far north as township 42, with the exception of township 41, ranges 20 and 21, west of the fourth meridian.

During the year 52 bulls and 21 stallions were captured and duly advertised in the Official Gazette. Of this number 14 bulls and 10 stallions were sold, the remainder being redeemed by the owners. Comparing this with the preceding year it would appear that only in case of severe annoyance was an entire animal taken up under the Ordinance, as the number captured does not begin to compare with the great number of scrub entire animals running at large, much to the detriment of good stock raising in the province. It is hoped that certain changes about to be made will remedy this evil to a great extent.

The balance of the proceeds of the sales of these animals is held in trust in the same manner as under The Stray Animals Ordinance.

The following is a list of the sales conducted during the year:

SALES OF ANIMALS UNDER THE ENTIRE ANIMALS ORDINANCE, 1909

JUSTICE	ADDRESS	CLASS OF ANIMAL	Date of Capture	First Gazette Notice	Date of Sale	Proceeds of Sale	Sent to Department
Adam, Francois...	Camrose...	Bull, red, white under belly, end of tail cut off, yearling, no visible brand	June, 1908	Dec. 31, 1908	Apr. 14, 1909	\$7.50	
Burn, John	Sedgewick	Bull, red, spotted red and white head, big yearling or small two-year old, branded script E, right half diamond 7, top bar of 7 connected to point of the half diamond, all on right ribs	July 31, 1908	Dec. 31, 1908	June 29, 1909	12 00	\$9.15
Bibby, Isaac.	Pine Creek	Stallion, colt, dark bay, star in forehead, age two years, no visible brand	Dec. 23, 1908	Jan. 15, 1909	Feb. 15, 1909	39 00	16.75
"	"	Stallion, light bay, star in forehead, stripe on nose, part of front feet white, one hind fetlock white, age 3 years, no visible brand	Dec. 23, 1908	Jan. 15, 1909	Feb. 15, 1909	70 00	46.95
Campbell, R. B.	Olds	Bull, dark red, no visible brand	Apr. 28, 1909	Apr. 30, 1909	June 21, 1909	16 00	.50
Edgeworth, A.	Foreman	Stallion, iron grey, white stripe in face, hind feet white, small two-year old, had home-made halter on, no visible brand	May 14, 1909	July 15, 1909	Sept. 4, 1909	35 00	9.35
Fleming, John.	Vegreville. .	Bull, red, white star in forehead, horns, age about two years, no visible brand	Dec. 12, 1908	Dec. 31, 1908	Jan. 28, 1909	22 05	
Hastings, H. I.	Hastings Coulee	Stallion, bay, six years old, branded what appears to be flying double yoke, on right hip	Mar. 2, 1909	Mar. 15, 1909	Apr. 30, 1909	34 00	16 05
Jenison, I. A.	Fisher Home	Bull, light red, white spot on forehead, white flanks, age 14 years, no visible brand	Nov. 19, 1908	Jan. 30, 1909	Apr. 19, 1909	12 00	
McDonald, J. S.	Sedgewick	Bull, red roan, yearling, no visible brand	Aug. 1, 1908	Dec. 15, 1908	Feb. 20, 1909	9 00	
Mason, William	Bon Accord...	Bull, black polled, coming 2 years, old no visible brand	Sept. 10, 1908	Dec. 31, 1908	Feb. 1, 1909	9 00	
Mills, Henry D.	Wetaskiwin..	Stallion, mouse coloured, age about 3 years, weight about 600 lbs, indistinct brand on left shoulder	Mar. 26, 1909	Apr. 30, 1909	May 29, 1909	24 00	
"	"	Bull, red, hind feet white, one forefoot and part of belly white, 16 or 18 months old, no visible brand	Apr. 1909	Sept. 30, 1909	Oct. 26, 1909	9 50	
Morkeberg, D. J.	Markerville....	Stallion, dark bay, hind pasterns and feet white, age about 3 years, weight about 850 lbs., wire cut on left hind leg, no visible brand	June 24, 1909	Aug. 14, 1909	Sept. 18, 1909	40 00	10.90
Mohler, Wm.	Round Hill. .	Bull, age about 2 years, red, wide horns very quiet, no visible brand	Nov. 1908	Dec. 15, 1908	Jan. 11, 1909	20.35	
Park, Wm.	Fort Saskatchewan	Bull, light red, about 20 months old, no visible brand	June 10, 1909	July 15, 1909	Aug. 28, 1909	11 00	
Stacey, Thos. J.	"	Stallion, bay, white stripe on face one hind foot white, age 1 year, indistinct brand on left shoulder, which looks like a 2 or an 8	June 1, 1909	Oct. 15, 1909	Nov. 13, 1909	27 00	8.45
Sutherland, Geo.	Namoo	Bull, dark red, almost a brindle, somewhat on face, belly and flank, yearling, no visible brand	Oct. 2, 1908	Dec. 31, 1908	Feb. 13, 1909	11 00	
Trenaman, J. C.	Trenville....	Bull, red Shorthorn, white spot on top of shoulder, end of tail white, white under brisket, age about 4 years, left hind foot frozen, or crippled in some way, no visible brand	Dec. 7, 1908	Dec. 31, 1908	Jan. 30, 1909	10 00	
Tweed, J. G.	Cochrane	Stallion, black, age 3 years, branded reversed 6, 6, on left shoulder	Mar. 5, 1909	May 15, 1909	June 2, 1909	35 00	15.12
Wallace, J.	Red Deer ..	Bull calf, light roan, 10 months old, no visible brand	Aug. 5, 1908	Oct. 15, 1908	Jan. 8, 1909	7 50	
"	"	Stallion, black, age 2 years, star in forehead, branded lary B	June 5, 1909	June 15, 1909	July 6, 1909	15 50	1.03
"	"	Stallion, brown, yearling, no visible brand	June 5, 1909	June 15, 1909	July 6, 1909	16.50	1.03
Wynn, Robert.	Knee Hill Valley ...	Bull, red, white spot on right side, age about 4 years, right ear split, indistinct brand on right ribs	Jan. 1, 1909	Feb. 27, 1909	Mar. 17, 1909	20 00	....

POUND DISTRICTS.

Considerable interest appears to be taken of late in pound districts and their organization. During the past year thirteen applications were received by the Department requesting the organization of pound districts in different localities. Of this number eight have been organized up to date. As a rule no complaints have been received from these districts, and from the reports which reach the Department this Ordinance appears to be giving as large a measure of satisfaction as can be expected in a province where ranching and grain farming are being carried on side by side.

In addition to the above districts, a number of village and municipal pounds were constituted.

The following is a list of the districts now organized under the Ordinance, the last eight being the new districts brought in during the past year:

No. 1.—Township 7, range 20, sections 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17 and 18. Township 7, range 21, sections 1, 2, 3, 10, 11, 12, 13, 14 and 15. Township 6, range 20, sections 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 16, 17, 18, 19, 20, 21, 22, 23, 27, 28, 29, 30, 31, 32, 33 and 34. Township 6, range 21, sections 1, 2, 3, 4, 9, 10, 11, 12, 13, 14, 15, 16, 21, 22, 23, 24, 25, 26, 27, 28, 33, 34, 35 and 36. Township 5, range 20, sections 1 to 36 inclusive. Township 5, range 21, east half.

No. 2.—Township 55, range 26, sections 6, 7, 18, 19, 30 and 31. Township 56, range 26, sections 6, 7 and 18. Township 54, range 27, sections 31, 32, 33, 34, 35, 36, north of the Sturgeon River. Township 55, range 27, sections 1 to 36, inclusive. Township 56, range 27, fractional sections 1, 12 and 13.

No. 3.—Township 55, range 26, sections 1, 2, 3, 4, 5, 8, 9, 10, 11 and 12, and the south half of sections 13, 14, 15, 16 and 17. Township 54, range 26, north half of sections 31, 32, 33, 34 and 35.

No. 4.—Township 3, range 24, sections 21, 22, 23, 24, 25, 26, 27, 28, 33, 34 and 35. Township 4, range 24, sections 1, 2, 3, 4, 9, 10, 11, 12, 13, 14, 16, 21, 22, 23, 24, 25, 26, 27, 28, 33, 34, 35 and 36. Township 5, range 24, all that part south of the St. Mary River. Township 5, range 23, sections 1, 2, 3, 4, 5, 6, 11 and 12, and that portion of sections 7, 8, 9 and 10, south of the St. Mary River. Township 4, range 23, sections 22, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35 and 36.

No. 5.—Township 30, range 4, sections 1 to 24, inclusive.

No. 6.—Township 47, ranges 13 and 14. Township 48, ranges 13 and 14.

No. 7.—Township 51, range 24, sections 5, 6, 7, 8, 17 and 18.

No. 8.—Township 50, range 24.

No. 9.—Township 53, range 22.

No. 10.—Townships 12 and 13, ranges 21 and 22.

No. 11.—Township 20, ranges 25 and 26.

No. 12.—Township 16, range 29, sections 13, 14, 15, 16, 17, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 32, 33, 34, 35 and 36.

No. 13.—Township 11, range 20.

No. 14.—Township 19, range 27.

No. 15.—Township 21, range 27.

No. 16.—Townships 14 and 15, range 22.

No. 17.—Townships 13 and 14 and 15, range 19; and Township 15, range 20.

No. 18.—Townships 14, 15 and 16, range 18.

No. 19.—Township 8, range 19.

No. 20.—Township 16, range 28.

There were taken up under the Ordinance in the various pound districts during the past year, 44 head of cattle, 23 head of horses, and 2 swine. These were advertised in the Official Gazette in the regular manner. Of this number only 3 head were sold, and the remainder returned to their owners. The following table gives a description of these:

DEPARTMENT OF AGRICULTURE

SALES OF ANIMALS UNDER THE POUND DISTRICT ORDINANCE, 1909.

POUND KEEPER	ADDRESS	CLASS OF ANIMAL	Date of Capture	First Gazette Notice	Date of Sale	Pro'ds of Sale	Sent to Department
Low, James P .	Cardston . . .	Yearling heifer, red, upper slope on left ear, branded P 4, on left ribs Cow, red, white spot in forehead, white under belly, stub horns, age about 3 years, branded double rowlock 4, on left ribs .	Mar 15, 1909	Mar 31, 1909	May 12, 1909	\$12 00	.
"	"	Cow, red, white spot in forehead, white under belly, stub horns, age about 4 years, branded small bar on right ribs	Nov. 12, 1909	Nov. 30, 1909	Dec. 20, 1909	22 50	\$9 85
"	"		Nov 12, 1909	Nov. 30, 1909	Dec 20, 1909	22 50	9.85

HERD DISTRICTS.

The Herd District Ordinance passed by the Territorial Legislative Assembly only provides for the formation of herd districts in that portion of the province formerly in the Territorial district of Saskatchewan, *i.e.*, the district north of the division line between townships 34 and 35 and as far west as the line dividing ranges 10 and 11. It is in this district only, therefore, that new districts can be organized, as no change has been made in this area since the province was inaugurated.

The following districts have been constituted under the provisions of the Ordinance:

Range 1, townships 29, 30, 51, 52 and that portion of township 53, lying south of the North Saskatchewan River.

Range 2, townships 49, 50, 51, 52, 53 and that portion of township 54 lying south of the North Saskatchewan River.

Range 3, townships 51, 52, 53 and those portions of townships 54 and 55 lying south of the North Saskatchewan River.

Range 1, townships 47 and 48.

Range 3, townships 49 and 50.

Range 4, townships 50 and 51.

Ranges 1 and 2, townships 38, 39 and 40.

Ranges 3 and 4, townships 38, 39 and 40.

The following townships were added during 1909:

Range 1, townships 47 and 48.

Range 4, township 54.

Range 2, township 47.

Range 2, township 48.

Range 4, township 49.

Ranges 1 and 2, township 41.

Range 3, township 47.

All west of the fourth meridian.

Pound Keepers in Herd Districts.

R. W. Humphrey, of Marwayne; pound kept on 14-53-3w4.

R. E. Brown, of Kitseoty; pound kept on 26-50-3w4.

Percy C. Gilbert, of Streamstown; pound kept on 30-51-1w4.

D. W. McKenzie, of Rising Sun; pound kept on S.E. $\frac{1}{4}$ 20-48-1w4.

Ernest A. Fitch, of River Course; pound kept on S.E. $\frac{1}{4}$ 14-47-1w4.

Geo. Wilson, of Islay; pound kept on S.E. $\frac{1}{4}$ 15-50-4w4.

H. A. Feinberg, of Greenlawn; pound kept on S.E. $\frac{1}{4}$ 30-54-4w4.

John Biddle, of Blackfoot Hills; pound kept on N.E. $\frac{1}{4}$ 14-50-2w4.

R. P. Legate, of Cadogan; pound kept on S. $\frac{1}{2}$ 1-39-4w4.

John H. Finley, of Cadogan; pound kept on S.E. $\frac{1}{4}$ 34-38-4w4.

Geo. Sunderland, of Provost; pound to be kept on N.E. $\frac{1}{4}$ 22-39-4w4.

G. M. Mawer, of Stainsleigh; pound to be kept on N.E. $\frac{1}{4}$ 14-39-1w4.

S. C. Agnew, of Provost; pound to be kept on Sec. 24-40-1w4.

Geo. Passe, of Provost; pound to be kept on S.W. $\frac{1}{4}$ 24-39-3w4.

No animals have been sold during the past year under The Herd District Ordinance.

STOCK INSPECTION.

During the year the usual number of stock inspectors were retired and successors appointed. Assistance was again given the Western Stock Growers' Association in maintaining a competent inspector at Winnipeg. As the result of this inspector's work quite a number of animals were found to have been shipped without authority. For all such animals the inspector collected from the shipper

the market value of same, and the amount so collected, together with a correct description of the animals, was forwarded to the secretary of the Western Stock Growers' Association, who located the owners as far as he could. The unlocated balance was forwarded to the Department and the animals duly advertised in the Supplement to the Official Gazette. A number of these have been claimed and the proceeds forwarded to the rightful owners. The balance of the proceeds has been placed in the general trust account and may be claimed within twelve months, after which it passes into the general revenue of the province.

Below is the usual tabular statement showing the shipments from various stations in the province. These returns go to show that in the neighbourhood of 10,000 head of horses were shipped for export out of the province during the year, and over 13,000 head transferred from one part of the province to another, or a total shipment of 23,000 head. In cattle, over 79,200 head were sent east, and 23,000 west for export, making a grand total for export of over 102,200.

During the past five years the exports of cattle have been as follows:

Export Cattle by Years.

	1905	1906	1907	1908	1909
East	45,266	73,889	79,807	73,888	79,329
West	8,838	8,911	13,924	16,153	23,684
Totals	54,104	82,830	93,731	90,041	103,013

The above table shows a fairly steady increase in the number of animals grown for export from year to year with a slight set back in 1908. To the pessimist this increase looks like the beginning of the end, and there are not wanting those who tell the general public that the cattle industry is declining and soon there will be no stock available for export and that it will not be long before it will be necessary to import beef to meet the market requirements of the province. The reason for this pessimistic view is that the influx of settlers into the districts hitherto wholly devoted to ranching has been so large that the range has been seriously curtailed and numbers of ranchers have been crowded out and compelled to sell all of their holdings. Thus, while the numbers of stock exported show steady increase, yet it is not an encouraging sign as a very large portion of this increase is made up of female stock — the breeding stock—which of necessity must greatly cripple the industry and in consequence the very near future will see a rapid decline in the numbers available for export.

But a very optimistic view of the whole situation is also possible. It is true the old time ranching districts have been sadly depleted of stock by the rapid settlement of the country and it is not surprising that those ranchers who ran their stock over unlimited range now loudly bewail the changed conditions. Many herds have been moved farther north, where there is still open range. Those who can see nothing but blue ruin for the stock industry fail to understand that the central and northern portions of the province are admirably adapted to mixed farming, that these districts are being rapidly settled and that each settler takes with him a few head of stock. In this way these newer districts will soon be, if they are not even now, sending to market as large a number as was formerly sent from the older ranching districts. In the near future the num-

bers available for export will steadily increase. It is just possible there may be a decline for a year or so until the new conditions adjust themselves, but it is equally possible that there will be no decline. The cattle industry is in a transition stage. Once the change has been made greater development will be possible. The animals will be ready for market at an earlier age because handled in smaller bunches and they will also be of higher average quality.

In conclusion it may be safely stated that the individual farmer handling a small bunch of cattle with care will take the place of the big rancher who runs a large bunch under more or less haphazard conditions, and because of the individual care given, a larger number of animals will be grown, even on the old ranching lands. There is no particular fear that the cattle industry will go to pieces or that it will be necessary to import our own beef.

Stock Statistics for Alberta. Calculated from returns received up to December 10th, 1909.

SHIPPING POINTS	INSPECTORS	EXPORTS				LOCAL SHIPMENTS		TOTAL	
		EAST.		WEST		CATTLE	HORSES	CATTLE	HORSES
		CATTLE	HORSES	CATTLE	HORSES				
Airdrie	W. A. H. Downie...	415	..	661	18	212	281	1,321	299
Alix	Horace Hickling ..	813	..	319	..	402	18	1,534	21
Bawlf	O. E. Eggen	365	3	46	..	1,200	22	1,601	22
Blackfalds	Joseph Capron	133	..	5	6	41	61	179	67
Bowden	P. McDermott	45	..	117	8	77	12	239	20
Brooks	James Gregory	3,153	67	375	..	395	128	3,923	195
Calgary	P. D. Sanders	12,869	696	7,000	539	1,700	1,830	21,029	3,065
Camrose	W. G. Duggen	..	..	..	..	..	..	..	..
Cardston	Frank Austin	5,156	126	138	5	392	119	686	548
Carstairs	Robt. Scott	940	7	1,187	12	418	22	5,646	299
Chigwell	H. Christiansen	..	..	11	5	44	6	2,545	34
Clareholm	C. W. James	108	..	534	68	532	533	55	6
Chipman	Andrew Watson	..	..	..	..	1,251	..	1,174	601
Cochrane	W. B. Elliott	1,071	79	771	75	146	234	1,251	388
Coutts	Wm. T. Patton	1,952	..	..	31	42	235	1,988	366
Cowley	P. J. Biddell	93	..	227	94	800	33	1,991	127
Crossfield	Wm. Urquhart	410	8	391	30	1,025	87	1,120	125
Daysland	D. Davidson	..	..	..	..	323	4	1,829	125
Didsbury	H. B. Atkins	415	80	1,193	..	922	118	323	4
Edmonton	W. H. Pickering	91	229	4	2	384	696	2,530	200
Erskine	J. E. Longacre	987	16	378	18	1,003	15	479	943
Fort Saskatchewan	John Graf	94	10	46	2	413	12	2,368	33
Gleichen	Harry Scott	3,759	671	280	48	441	720	583	22
Granum	D. C. Hobbs (deceased) ..	..	..	..	8	..	..	4,483	1,439
Grassy Lake	Wm. Salvage	1,741	14	..	..	44	..	1,785	8
Greenshields	Chas. F. Gibson	191	..	79	6	288	62	191	14
Hardisty	Arthur Wood	241	..	..	..	..	..	608	68
High River	Chas. E. Fisk	5,015	294	1,467	155	1,845	341	8,331	790
Holden	A. E. Stewart	..	..	..	..	319	..	319	..
Innisfail	W. T. Lundy	1,065	1	551	23	2,281	150	3,897	174

Innisfree	D. McColman						101	528	101		866
Irvine	Carl Beny . .	283	338				113	9	401		9
Islay	D. H. Moore	32					32		54		
Lacombe	Jas. P. Kent	1,093	94				2,214	964	3,318		1,179
Lavoy	Fred Pass . .	4					35	9	39		9
Lamont	R. J. Torrie . .	159					370		529		
Leduc	J. S. Johnson .	3	10				210	107	245		211
Lethbridge	C. W. Lowther	4,392	10				2,055	562	7,190		662
Lloydminster	Hiram Miller						22	11	22		11
Macleod	R. G. Mathews	1,890	1,549				861	956	2,458		2,602
Magrath	Benj. Matkin	801	207						828		65
Mannville	Walter Shuh		27						11		49
Medicine Hat	J. H. G. Bray		6				116	442	8,814		2,789
Millet	Alex. Minard .	8,612	2,398				51	3	92		3
Morley	Frank Ricks	17	142				26	13	68		222
Morningside	W. C. Huston		8				783	17	813		17
Mundare	Valantine Mohr	80					184	143	255		226
Nanton	Henry Winsor .	22	20				117	179	939		296
Okotoks	Geo. C. S. Paterson	735	81				417	16	630		16
Opaton	A. W. Fleming .	61	49				492	246	4,869		328
Olds	Thos. McKercher	3,413	26				155	19	411		20
Penhold	Roy E. Fleming	153	1				132	279	4,453		511
Pincher Creek	Jas. Robertson	1,749	100				2,964	63	3,201		134
Ponoka	A. Reid	134	3				10	22	2,853		52
Raymond	T. J. O'Brien	2,833	20				79	181	1,962		280
Red Deer	J. B. Gartz . .	694	20				291		291		
Ryley	R. A. Peterson						218	14	218		30
Sedgewick	John Burn . . .		4				154	3	199		10
Staveland	J. B. Robertson	314	4				4	5	757		5
Stettler	Jay C. Blain . .						482	1,052	683		1,203
Strathcona	R. Wainwright .	131	116				634	3	9,421		217
Strathmore	Oscar Moorehouse	7,267	197				192	4	192		6
Strome	W. T. Phipps . .						410	9	1,129		9
Tees	Wm. E. Tees . .	66	653				216		216		
Tofield	R. A. MacKenzie						1,005	255	1,190		300
Vegreville	M. G. Connolly .	185	45				896	444	1,010		470
Vermilion	D. E. Horner . .	114	4				115	45	115		45
Viking	O. O. Lund . . .						65	196	2,388		330
Walsh	Lachlan Sinclair	2,293	134				3,301	164	4,202		183
Wetaskiwin	P. A. Miquelon	516	19								
Total		79,329	7,584	23,684	2,074	38,806	13,092	141,724	22,840		

WOLF BOUNTY.

Owing to the continued destruction of stock and poultry by timber and prairie wolves, it was decided to again pay bounty during 1909. It was therefore thought advisable to submit a Bill respecting the payment of wolf bounty to the Legislature, which received the assent of His Honour the Lieutenant Governor on the 25th day of February and provides as follows, being Chapter 13 of the Statutes of 1909:

AN ACT FOR THE PAYMENT OF WOLF BOUNTY

(Assented to February 25, 1909.)

His Majesty, by and with the advice and consent of the Legislative Assembly of the Province of Alberta, enacts as follows.

SHORT TITLE.

1. This Act may be cited as "The Wolf Bounty Act."

INTERPRETATION.

2. In this Act, unless the context otherwise requires—
 - (1) The term "Minister" shall mean the Minister of Agriculture;
 - (2) The term "Inspector" shall mean any person appointed under the provisions of this Act for the purpose of issuing wolf bounty warrants;
 - (3) The term "wolf" shall mean any timber wolf, prairie wolf or wolf pup;
 - (4) The term "timber wolf" shall mean the large wolf known as the gray or black wolf;
 - (5) The term "prairie wolf" shall mean coyote or brush wolf;
 - (6) The term "wolf pup" shall mean the immature young of the prairie or timber wolf, up to the first of August in any year.
3. There shall be paid out of the general revenue of the province, on the presentation of a warrant or warrants in form approved of by the Minister, and issued by a duly appointed inspector, a bounty on timber wolves of \$10 per head; a bounty on prairie wolves of \$1 per head; a bounty on wolf pups of \$1 per head.
4. The Minister may appoint inspectors to examine pelts and issue warrants, and perform such other duties as may be imposed upon him by this Act or any regulations thereunder.
5. Inspectors shall have power to administer any oath or affirmation required by any rules or regulations made under the provisions of this Act, and shall administer such oaths or affirmations free of charge.
6. The Minister may, subject to the approval and consent of the Lieutenant Governor in Council, make rules and regulations governing the payment of bounty, the remuneration of inspectors and generally for the carrying into effect the provisions of this Act, and may from time to time with the like approval and consent alter or repeal any such rules or regulations.
7. The Lieutenant Governor in Council may in the event of any appropriation passed by the Legislature for the payment of bounty becoming exhausted, or where for any other reason it is deemed advisable so to do, direct that inspectors be notified to cease issuing warrants, and a like power is hereby vested in the Lieutenant Governor in Council to direct that warrants may be again issued.
8. Any person making a claim for bounty under this Act on pelts taken from wolf which has been killed elsewhere than in the Province of Alberta shall be liable on summary conviction to a penalty not exceeding \$100 and costs.

The following are the rules and regulations under which bounty was paid during the past year. These were framed by the Minister and approved by the Lieutenant Governor in Council in accordance with the provisions of section 6 of the Act.

RULES AND REGULATIONS.

1. The pelts, including the scalp of each wolf upon which bounty is claimed, must be produced intact to the inspector by the person claiming bounty. Every person applying for bounty shall furnish the inspector with an affidavit specifying the number of animals upon which bounty is claimed and stating that every such animal was killed inside the province.

2. The inspector shall split both ears, from tip to base, of every wolf pelt presented to him for bounty.

3. The inspector shall keep record of all warrants issued and number them consecutively in a book supplied by the Department for that purpose, and forward to the Department a counterfoil of every warrant issued.

4. The inspector shall use every precaution known to him and be satisfied that the pelt is of a timber and not a prairie wolf before he issues a warrant for same.

5. No bounty shall be paid on any prairie wolf or wolf pup killed prior to the first day of January, 1909.

The inspector shall be entitled to a fee of ten cents for each pelt he inspects as shown by the properly completed warrants paid by the Department.

During the year bounty was paid on 209 timber wolves. Of these, warrants in payment of bounty on 129 were issued south of the 55th parallel and 80 north of this line. This does not include the pups on which bounty was paid as the pups of the timber wolf as well as those of the prairie wolf are classified under the regulations as "wolf pups" until the first day of August in each year. After this date the pups of both the timber and prairie wolf are sufficiently well developed for inspectors to readily distinguish the difference. There is reason to believe, however, that occasionally warrants are issued for a timber wolf when in reality the pelt is that of an extra large prairie or brush wolf. The total amount paid in connection with bounty for the year was \$25,231.28, being \$5,231.28 in excess of the amount voted by the Legislature. Inspectors were permitted to issue warrants in payment of bounty on prairie wolves until the 31st day of July, after which date warrants for bounty on timber wolves only were issued.

During the months of May, June and July many of the warrants issued were in payment of bounty on pups. The natural result of this is the saving of thousands of dollars to the poultryman and farmer, as during these months the mother wolf requires large quantities of food to support herself and rear her young. As barnyard fowl, sheep and lambs are much more easily obtained than wild fowl and animals, the farmer and poultryman consequently suffer the loss of many animals and birds from his flock.

In many districts coyotes are reported as being very scarce, in others plentiful. It is pleasing to note that their numbers have been greatly reduced during the past two years. This reduction in number is no doubt partially responsible for the increase in price of the pelts from one to two dollars to from four to six dollars.

It is therefore worthy of consideration whether in future any bounty should be paid between the first day of October and the first day of May in the following year so long as the value of the pelt remains above three dollars. It might be necessary to increase the bounty to two dollars in order to induce Indians and others to hunt during the breeding season, and the pelt being worth from three dollars upwards when the fur is good might be a temptation to let the young animals develop rather than to destroy them for one dollar each.

In addition to the R.N.W.M.P., who are inspectors north of the 55th parallel, the following inspectors also issued warrants during the year. These have been arranged by constituencies as shown by their post office addresses:

WOLF BOUNTY INSPECTORS BY CONSTITUENCIES.

Alexandra.

A. W. Brereton	Ribstone.
J. H. Dawson	Wainwright.
Peter Dewar	Wainwright.
Chas. F. Gibson	Greenshields.
Alex. Johnston	Kitseoty.
Hiram Miller	Lloydminster.
D. H. Moore	Islay.
W. E. Wosley	Chauvin.

Athabasca.

Wm. Biggs	Fort McKay.
A. H. Griffin	Wabiskaw.

Cardston.

Frank Austin	Cardston.
Wm. T. Patton	Coutts.

Claresholm.

Chas. W. James	Claresholm.
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Cochrane.

T. E. Andison	Cochrane.
Ernest L. Bell	Lochend.
W. A. H. Downie	Airdrie.
Frank Ricks	Morley.
Wm. Urquhart	Crossfield.

Camrose.

E. Bosman	Round Hill.
F. W. B. Bryenton	Spring Lake.
D. Davidson	Daysland.
W. F. Duggan	Camrose.
K. O. Eggan	Bawlf.
A. W. Fleming	Ohaton.
Andrew Hally	Ferry Point.
J. D. Johnstone	Highland Park.
Evan Olstad	Rosenroll.

Calgary.

P. D. Sanders	Calgary.
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Didsbury.

H. B. Aitkens	Didsbury.
R. Scott	Carstairs.

Edmonton.

W. H. Pickering, V.S.	Edmonton.
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Gleichen.

W. J. Ball	Brooks Station.
O. Moorehouse	Langdon.
A. A. McGregor	Bassano.
J. P. McBeath	Dorothy.
Harry Scott	Gleichen.
F. C. Vigar	Rosebud Creek.

High River.

Dr. T. E. LeClaire. High River.

Innisfail.

Roy E. Fleming Penhold.
W. T. Lundy. Innisfail.

Lac Ste. Anne.

C. H. Dunn Wabamun.
Gerald Gamlin. Lac Ste. Anne.

Lacombe.

T. A. Brereton Clive.
Jos. Capron Blackfalds.
F. A. Cull Canyon.
J. H. Damron Bentley.
W. C. Huston Morningside.
Jas. P. Kent Lacombe.
Alex. Mather. Alix.
R. A. Read Chigwell.
W. E. Tees Tees.

Leduc.

J. S. Johnston Leduc.
W. A. Robertson. Millet.
Nels A. Sanders Thorsby.

Lethbridge City.

C. W. Lothar Lethbridge.

Lethbridge District.

T. J. O'Brien Raymond.
H. Ostlund Stirling.
Wm. Salvage. Grassy Lake.

Macleod.

Jno. B. Baillie Macleod.

Medicine Hat.

J. H. G. Bray Medicine Hat.
Carl Beny Irvine.
Laughlin Sinclair Walsh.

Nanton.

J. B. Robertson Stavely.
Harry Winsor. Nanton.

Okotoks.

John Paterson. Okotoks.

Olds.

P. McDermott Bowden.
T. McKercher. Olds.

Pakan.

E. Brosseau. Brosseau.
Peter Erasmus White Fish Lake.
N. LeGoff Lac la Biche.

Pembina.

Gordon Macdonald Belvedere.

Pincher Creek.

Glendower Allan Pincher City.
C. B. Miller Cowley.
James Robertson Pincher Creek.

Ponoka.

Andrew Reid Ponoka.
Herbert Thorpe Rimbey.

Rocky Mountain.

H. E. Sibbald Banff.

Red Deer.

J. B. Gaetz Red Deer
David Haydon Evarts.

Strathcona.

H. Horton Hortonburg.
J. C. Wainwright Strathcona.

Sturgeon.

Claude Thillet Athabasca Landing.
W. Weidrick Clyde.

Sedgewick.

Samuel E. Davis Talbot.
Foster MacKenzie Sedgewick.
W. T. Phipps Strome.
Geo. Williams Brownfield.
Arthur Wood Hardisty.

Stettler.

J. C. Blain Stettler.
J. E. Longacre Erskine.
W. E. Prudden Red Willow.
W. H. Tait Content.

Stony Plain.

S. J. Eccles Spruce Grove.
George Imeson Stony Plain.

St. Albert.

P. S. Gaudette Morinville.
J. A. Piquette St. Albert.

Victoria.

E. Carey Andrew.
Jno. Graf Fort Saskatchewan
R. J. Torrie Lamont.

Vermilion.

M. G. Brimacombe Vermilion.
B. C. Gilpin Gilpin.
O. O. Lund Viking.
D. McColman Innisfree.
J. A. McDougall Ranfurly.
J. B. Thomas Mannville.

Vegreville.

M. G. Connolly	.	Vegreville.
J. S. Kavanagh	....	Mundare.
A. R. Moody	.	Beaver Lake.
R. A. McKenzie	.	Tofield.
Wm. McKenzie	.	Vegreville.
Fred Pass	.	Lavoy.
N. M. Smith	.	Holden.
Leon Thirsk	...	Equity.
Andrew Watson		Chipman.

Wetaskiwin.

P. A. Miquelon.		Wetaskiwin.
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II.—CROPS

WEATHER CONDITIONS AND STATISTICS.

The supervision of the voluntary meteorological service in the province started by the Territorial Department has been continued under the direction of the Dominion meteorological office at Toronto. During the year a number of new observers were appointed and the following is a complete list of all stations in operation in 1909:

METEOROLOGICAL STATIONS IN OPERATION IN 1909.

STATION	Lat.	Long.	Altitude	OBSERVER
	o	o		
Alix	52 24	113 10	2100	E. H. Curtis.
Athabasca Landing	54 43	113 17	1550	
Banff	51 11	115 35	4542	N. B. Sanson.
Bantry	50 32	111 50	2471	C.P.R. Agent.
Bassano	50 47	112 28	2589	C.P.R. Agent.
Bon Accord	53 53	113 24	2158	Jno. Schofield.
Calgary	51 2	114 2	3380	Miss M. Bredin.
Daysland	55 52	112 17	2260	D. Davidson.
Didsbury	51 40	114 8	3300	C. S. Peterson.
Dunvegan	55 56	118 35	1305	F. I. Bedson.
Eckville	52 23	114 22	3000	W. W. Gaskarth.
Emsburg	52 15	112 12	2500	Mrs. W. L. Felton.
Edmonton	53 33	113 30	2158	Campbell Young.
Fort Vermilion	58 27	116	950	Rev. V. S. White.
Fort Vermilion				Robt. Jones.
Fort McMurray	56 48	111 25	840	Miss Gordon.
Gleichen	50 59	112 51	2952	Rev. C. Stocken.
High River	50 35	113 53	3391	L. M. Robertson.
Hillstown	52 14	113 29	2806	R. E. Fiske.
Harmattan	51 45	114 23	3500	W. Levesley.
Islay	52 24	110 32	2159	I. R. Giles.
Knee Hill	51 31	113 22	3100	A. Wyndham.
Langdon	51	113 10	3291	C.P.R. Agent.
Lethbridge	49 42	112 51	2961	C. B. Bowman.
Lethbridge Exper'l Farm	49 43	112 51		W. H. Fairfield.
Lacombe Exper'l Farm	52 28	113 44	2783	R. E. Everest.
Macleod Police	49 44	113 24	3128	Sergt. Haslitt.
Peace River Crossing	56 15	117 15	1225	H. A. George.
Medicine Hat	50 1	110 37	2161	Walter Crosskill.
Pembina	54 12	114	1368	D. H. Telfer.
Pakan (Victoria)	54 0	112 31	2049	G. A. Mitchell.
Pincher Creek	49 0	114 4	3750	G. W. Cill.
Three Hills Creek	51 30	113 11	3100	W. E. Cutler.
Wetaskiwin	52 58	113 23	2480	J. H. Walker.
Whitefield	53 29	111 38	2000	Thos. B. Waite.

METEOROLOGICAL STATIONS IN ALBERTA REPORTING RAINFALL, SNOWFALL AND STATE OF WEATHER.

Station.	Observer.
Bardo	J. N. Jevning.
Bismark	Henry Nagel.
Bruderheim	C. A. Albrecht.
Bittern Lake	E. C. Roper.
Conjuring Creek	J. A. Sangster.
Dorence	C. Nixon.
Grassy Lake	Dan Slawson
Josephsburg	Jas. Robinson



EXHIBIT MADE BY THE PROVINCE AT THE ALASKA-YUKON AND PACIFIC EXHIBITION, SEATTLE.

98
10

10

10
10

Jumping Pond
Lacombe
Lawrence
Macleod
Okotoks
Ponoka
Sion
Wabamun

Leo J. G. Ward.
Miss A. M. Crow.
C. D. Meacham.
J. Stenson.
H. R. Harper.
John Hagemann.
Geo. H. Cottman.
J. C. Haddock.

MONTHLY WEATHER REVIEW, 1909.

January.

EDMONTON. —A month of fine, but extremely cold weather, 88 hours of bright sunshine, 8 inches of snow on the ground. Stock reported to be wintering well.

CALGARY. —Until the middle of the month the weather was intensely cold and the mercury dropped to 42 degrees below zero; the other part of the month has been seasonable winter weather; snowfall very light, about three-quarters inch on the ground. Very rapid barometric changes throughout the month.

MEDICINE HAT. —Very cold first half of month, with light snowfalls followed by fine weather; stock in good condition, feed plentiful.

February.

EDMONTON. —A month of fine weather, 105 hours of bright sunshine; 11 inches of snow on the ground, stock wintering well and business improving.

CALGARY. —From 6th until 14th the weather was intensely cold; remainder of the month bright and warm. Very little wind; precipitation very light; no snow on ground.

MEDICINE HAT. —One cold week during February, remainder of the month very fine. No high winds and little snow; stock in good condition.

March.

EDMONTON. —A month of fine weather; one hundred and ninety-two hours of bright sunshine; snow gone in the city; stock wintered well; business conditions good.

CALGARY. —March weather was bright and pleasant, winds mostly easterly but moderate, snowfall very light.

MEDICINE HAT. —Fine and dry during March, a few frosty nights and flurries of snow; farmers busy seeding; land in fine condition.

April

EDMONTON. —There was considerable cloudy weather during the month; one hundred and ninety-six hours of bright sunshine; river still ice-bound. Owing to the late spring, feed is scarce for stock; farming operations very backward.

CALGARY. —April was a cold disagreeable month; heavy frost and high easterly winds throughout, very little growth.

May.

EDMONTON. —A somewhat cloudy month with heavy rains during latter part which, with warm weather following, have materially improved farming prospects. Bright sunshine 201 hours.

CALGARY. —Until the latter part of the month the weather was cool and vegetation backward, but since warm weather and heavy rains, growth has been very rapid; both spring and winter wheat are now in fine condition.

MEDICINE HAT. —Warm during May with a fairly good rainfall. Grass plentiful and crops looking well and growing rapidly.

June.

EDMONTON. —A month of fairly fine weather. There was enough rain followed by warm days to put the crop in forward condition. Three hundred and five hours of bright sunshine. River low and falling.

MEDICINE HAT. —Fine warm weather with good rainfall well distributed over the month. Crops in fine condition and growing fast; present prospects excellent.

July.

EDMONTON.—A month of fine weather with considerable rainfall. Crops all over Alberta reported as being in favorable condition. 304 hours of bright sunshine. Good stage of water in river.

MEDICINE HAT.—Fine growing weather in July. Hay crop good; cutting general. Grain crops heavy, cutting will start next week.

August.

The weather of August was unusually fine in all districts and most favourable for the crops, a bountiful harvest being pretty well assured. Hailstorms admittedly did damage locally and the local frosts at the close of the month no doubt were responsible for other small injuries, but on the whole conditions appear to be most satisfactory.

EDMONTON.—A month of fine weather; harvesting operations active, large yield assured; light frosts have done little or no damage. Lowest minimum 29 degrees on the 28th. Three hundred and twenty-five hours of bright sunshine.

MEDICINE HAT.—Dry warm weather with some high temperatures during August; grain cutting finished around here; threshing shows yield and quality to be both good.

September.

The weather of September was remarkably fine and warm with both the precipitation and wind mileage generally much below the usual amount; frosts were few and usually very light.

EDMONTON.—A month of fine harvesting weather; crops saved in fine condition; sunshine 217 hours.

MEDICINE HAT.—Warm and dry weather during September, very favourable for threshing and fall-ploughing; stock shipments light; so far quality excellent.

October.

EDMONTON.—A month of considerable cloudy weather. Prairie fires have occasioned a good deal of damage in various parts of the country. Grain has proved to be of fine quality. Highest 76 degrees on the 5th, lowest 3 degrees on the 11th; 126 hours of bright sunshine.

MEDICINE HAT.—Mild and dry weather during October. The threshing and farm work is about finished. Ranch stock looking well; feed plentiful.

November.

EDMONTON.—A month of cloudy weather with considerable snow and low temperature. River frozen over on the 18th. Stock reported in good condition; 63 hours of bright sunshine.

MEDICINE HAT.—The weather was cold and generally cloudy during November, with light snowfalls and occasional low temperatures. Ranch conditions good. Shipments light.

December.

EDMONTON.—The first ten days of December were very cold, followed by mild weather during the balance of the month. Stock reported to be in good condition. 60 hours of bright sunshine.

MEDICINE HAT.—Generally cold and cloudy during December, good snowfall; fine sleighing for the most part of the month. Ranch stock reported to be doing well.

ANNUAL PRECIPITATION FROM 1896 TO 1909 INCLUSIVE

STATION	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	Average
Alix										*2 87	13 00	*13 91	14 15	14 39	
Athabasca Landing										*11 69	*0 45	23 54	21 05	*0 29	
Banff... ..	15 86	23 40	20 58	26 34	23 29	19 27	30 59	24 82	14 80	16 00	14 88			21 56	21 14
Bantry												*15 59	*18 05	13 74	
Bardo														11 65	
Bassano														10 62	
Bismark										*11 46	17 63	18 14	*17 04	10 88	
Bon Accord												14 52	24 97	16 20	
Brooks														10 96	
Bruderheim										*13 29		*12 07	*12 06	*11 03	
Bittern Lake												*17 19	*18 51	*11 53	
Calgary	16 05	20 53	14 94	26 15	17 57	22 31	34 57	22 77	12 15	14 84	16 24	14 96	18 25	16 03	19 10
Cumjuring Creek												18 57		*13 63	
Daysland														*14 65	
Didsbury						23 07	25 13	21 80	14 26	21 72	22 07	*27 11	*21 89	20 99	22 11
Dorence											14 49	19 50	18 60	*15 99	
Dunvegan												*8 66	*11 29	*8 23	10 69
Eckville													*24 33	*9 44	
Emsburg (Red Willow)	15 24	14 55	10 90	20 89	27 82	27 53	20 66	21 06	19 86	15 36	*13 48	16 62	17 89	14 30	14 51
Edmonton											*8 23	3 19	*3 57	*9 55	18 29
Fort Vermilion								15 83	*10 22	11 19	16 61	*11 39	*15 89	19 14	
Gleichen												*4 94	*8 22	*9 20	
Grassy Lake												16 05	15 58	9 31	
High River										16 26	16 06	17 51	*18 64	18 16	17 32
Hillsdown													*14 76	*7 11	
Harmattan															
Islay													*.68	5 89	
Josephsburg												11 56	*9 54	*13 78	
Jumping Pond												16 09	20 14	16 88	18 51
Knee Hill											*11 18	*5 30	*10 19		
Lacombe										15 04			*17 66	15 34	
Lacombe No. 2													*18 52	8 01	
Langdon														10 98	
Lawrence												12 19	*14 69	11 69	

DEPARTMENT OF AGRICULTURE

STATION	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	Average
Lethbridge							28 13	14 82	11 40	13 78	*22 48	15 50	16 16	11 69	17 75
Lethbridge (Exp. Farm)													*13 97	10 36	
Macleod (Police)												*19 48	*11 49	14 88	
Macleod					10 08	12 21	10 48	9 73	5 34	11 63	20 82	*12 40	*18 11	*16 05	13 20
Medicine Hat	12 73	12 60	13 59	19 71	22 05	20 80	13 68	9 90	9 70	8 99	11 62	*16 96	*9 67	9 80	14 04
Okotoks	17 83	17 27	15 91	*22 28								*12 93	19 01	13 52	
Pakan											15 83	*18 32	*27 31	13 91	18 85
Peace River Crossing												*2 81	*12 33	*9 05	
Pembina										14 52	*21 63		12 22	4 02	8 12
Pincher Creek												*19 53	*6 82	25 91	
Ponoka												17 11	17 87	*10 01	
Sion										18 02	15 25	*13 77	14 29	20 63	18 59
Three Hills Creek								18 53	11 44			*19 53	14 29	15 74	15 29
Wabamun												20 36	19 97	*7 67	
Waitefield								20 87		13 18	24 57	17 07	22 87	17 82	20 55
Wetaskiwin									18 10		16 64	17 97	17 97	13 91	16 97

* Figures represent only part of year.

MONTHLY PRECIPITATION, 1909.

STATION	Jan	Feb	Mar.	April	May	June	July	Aug.	Sept.	Oct	Nov.	Dec.	
Alix	0 95	0 40	0 38	0 97	3 69	2 06	2 68	0 48	0 38	0 82	0 58	1 00	14 39
Athabasca Landing	0 85	0 20	0 70	1 30	3 24			0 94	1 13	0 70	4 67	1 62	*6 29
Banff	3 94	1 38	0 78	0 92	1 49	1 81	2 68	0 94	34	0 05	0 90	0 45	21 56
Bantry				0 70	5 93	1 63	3 25	0 59	00	0 75	0 80		*13 74
Bardo	0 30	0 35	0 20	0 57	2 75	0 55	4 34	0 46					11 65
Bassano				0 48	3 92	0 98	4 78	0 46					*10 62
Bismarek	0 70	0 62	0 21	0 87	0 88	1 30	3 15	0 73	0 34	0 67	0 74	0 45	10 88
Bon Accord	0 83	0 48	0 45	1 70	4 61	2 39	2 44	0 75	0 22	0 31	1 50	0 52	16 20
Brooks				0 70	3 66	0 61	3 96	0 36	0 36	0 04	0 60	0 67	*10 96
Bruderheim				1 50	3 21	2 06	3 52		0 03	0 13	0 93	0 57	*11 03
Bittern Lake	0 50	0 65	0 45	1 07	4 13		2 50	0 57	0 03	0 64	0 21	0 44	*11 53
Calgary	0 58	0 36	0 68	1 14	4 87	2 07	4 09	0 59	0 36	0 61	0 21	0 44	16 03
Conjuring Creek	0 66	0 63	0 53	1 40	2 31		4 97	0 88	0 09	0 61	1 05	0 50	*13 63
Daysland	0 60												*0 60
Didsbury	0 25	0 40	0 90	1 45	1 11	3 79	5 19	1 10	1 06	1 53	0 35	0 80	20 99
Dorelee	0 80	0 40		0 70	5 73	4 50		1 18	0 03	0 80	0 75	1 10	*15 99
Dunvegan		0 23	0 25		1 28	2 30	0 75	1 14	0 30	0 17	1 25	0 66	*8 33
Eckville	0 85	0 88	0 40	0 25	1 72		2 72	0 64	0 30	0 90	0 30	0 48	*9 44
Ensbury	0 89	0 31	0 36	0 15	3 16	1 46	3 16	0 45	0 21	0 90	0 13	0 29	11 47
Edmonton	1 01	0 16	0 33	1 40	3 05	1 85	3 25	0 89	0 06	1 48	0 04	0 78	14 30
Fort Vermilion	0 78		0 73		2 06	0 97	2 43	1 96			0 62		*9 55
Gleichen	0 40		0 30	0 70	5 17		7 95	2 07	0 80	0 55	0 40	0 80	19 14
Grassy Lake	0 80	0 75	0 25	0 80	2 10	0 43	2 55		0 25	0 10	0 70	0 20	*9 20
High River	0 53	0 25	0 35	1 30	2 12	0 72	1 96	0 16	0 19	0 27	0 39	0 77	9 31
Hilldown	0 98	0 80	1 05	0 83	2 96	2 92	4 41	0 84	0 47	1 25	0 65	1 00	18 16
Harmattan	0 25	0 40	0 55		3 76	2 15							*7 11
Islay		0 05	0 55		0 76	0 60	2 00	0 01		0 20	0 42	1 30	5 89
Josephsburg			1 20	0 75	3 85	4 18	3 10	0 70	0 23	0 63	0 81	0 41	*13 78
Jumping Pond	0 38	1 10	0 79	0 76	4 36	2 53	3 54	1 28					16 88
Knee Hill													
Lethbridge	0 43	0 28	0 37	1 51	4 27	0 62	1 98	0 21	0 49	0 39	0 53	0 54	11 69
Lethbridge Exp. Farm	0 24	0 20	0 50	1 15	3 43	0 82	1 54	0 08	0 47	1 06	1 06	0 50	10 36
Lacombe Exp. Farm	0 77	1 43	0 35	0 28	2 41	2 24	4 28	0 91	0 43	1 05	0 37	0 82	15 34

MONTHLY PRECIPITATION, 1909—Continued.

STATION	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	
Lacombe..	0.30	0.33	0.20	0.15	1.01	1.01	2.56	0.24	0.34	0.70	0.50	0.67	8.01
Langdon..	....	....	....	....	2.81	1.90	3.10	.32	10	2.40	10	.25	*10.98
Lawrence.....	0.95	0.65	0.60	0.55	2.58	0.81	2.21	0.44	0.50	0.85	0.90	0.65	11.69
Macleod (Police)	0.74	0.50	0.65	1.33	3.51	3.02	3.19	0.11	0.19	0.20	0.52	0.92	14.88
Macleod.	1.20	....	0.68	2.95	2.72	2.91	3.83	0.30	0.25	0.21	0.40	0.60	*16.05
Medicine Hat	0.38	0.35	0.20	0.30	2.18	2.67	1.69	0.20	0.42	0.13	0.52	0.79	9.80
Okotoks..	0.45	0.45	0.37	1.02	3.73	1.16	4.14	0.53	0.38	0.14	0.50	0.65	13.52
Pembina .....	....	....	....	....	2.55	1.47	....	1.47	....	....	....	....	*4.02
Pakan (Victoria)	0.77	0.48	0.33	0.92	1.73	1.43	2.34	2.34	1.15	0.38	1.37	0.67	13.91
Pincher Creek	2.75	1.69	0.62	5.46	3.92	2.00	6.86	0.25	0.86	0.51	0.63	0.36	25.91
Ponoka.....	0.70	0.10	0.30	0.85	0.78	....	3.79	0.75	0.06	1.01	1.35	0.35	*10.04
Three Hill Creek	0.40	0.62	0.99	0.72	3.20	2.95	3.68	0.44	0.55	0.86	0.43	0.90	15.74
Wetaskiwin	0.55	0.34	0.58	0.46	2.84	1.70	5.79	0.32	0.06	0.06	0.72	0.52	13.94
Sidon.....	1.70	0.45	0.80	1.84	3.10	4.63	2.62	0.94	0.25	0.46	2.80	1.10	20.69
Peace River Crossing	1.20	0.50	....	0.81	....	1.35	0.98	1.71	1.02	0.90	0.18	0.40	*9.05
Wabamun	1.23	0.92	0.81	1.02	2.00	1.69	....	....	....	....	....	....	*7.67
Waitefield.	0.81	0.53	1.16	1.04	4.09	2.07	3.66	0.69	0.08	0.96	1.45	1.29	17.83

*Reports cover only part of the year.

MEAN, MAXIMUM AND MINIMUM TEMPERATURES for Meteorological Stations in Alberta for 1909

STATIONS		Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Alix	Mean	-4.5	4.9	23.6	31.0	48.5	57.6	61.7	58.4	53.3	38.1	16.4	9.1
	Maximum	40.0	50.0	56.0	57.0	76.0	79.0	80.0	85.0	79.0	69.0	54.0	43.0
	Minimum	55.0	50.0	-22.0	4.0	25.0	37.0	44.0	33.0	27.0	13.0	-22.0	-24.0
Athabasca Landing.	Mean	-12.9	2.2	22.3	25.9	48.5	...	...	...	...	...	...	...
	Maximum	36.0	45.0	52.0	51.0	76.0	...	...	...	...	...	...	...
	Minimum	-57.0	-46.0	-29.0	14.0	19.0	...	...	...	...	...	...	...
Banff	Mean	1.9	15.5	27.6	29.0	43.4	52.3	57.1	54.5	50.9	38.9	20.4	9.9
	Maximum	38.0	39.0	47.2	55.2	66.9	79.4	85.1	83.3	79.6	60.5	41.3	35.0
	Minimum	-47.0	-32.1	6.0	5.9	20.4	31.1	36.0	28.9	30.8	20.9	-17.5	-23.5
Bon Accord	Mean	8.5	3.6	21.7	27.4	48.4	55.8	60.6	56.1	53.0	37.5	12.4	7.9
	Maximum	31.0	40.0	49.2	50.9	76.6	80.6	80.4	82.6	79.5	73.2	53.9	44.2
	Minimum	-46.7	31.0	-13.0	-1.8	22.4	36.2	37.2	28.9	29.0	8.0	-21.1	-24.7
Calgary	Mean	3.6	11.8	30.7	32.6	46.5	56.8	61.4	59.0	55.2	40.5	19.5	13.9
	Maximum	48.0	46.0	58.0	61.0	76.0	82.0	84.0	84.5	84.0	72.0	56.0	50.0
	Minimum	-44.0	35.0	3.0	10.0	22.0	36.0	41.0	33.0	31.0	19.0	-12.0	-23.0
Daysland	Mean	-6.1	8.2	20.2	...	...	...	...	...	53.1	...	9.6	6.0
	Maximum	36.0	38.0	48.0	...	...	...	...	...	85.0	...	46.0	40.0
	Minimum	-50.0	-32.0	-0.0	...	...	...	...	...	26.0	...	-26.0	-22.0
Didsbury	Mean	4.1	10.6	30.5	30.8	45.0	56.0	61.0	58.1	55.1	41.7	20.5	16.4
	Maximum	50.0	50.0	60.0	62.0	78.0	78.0	82.0	84.0	84.0	76.0	58.0	50.0
	Minimum	-54.0	-45.0	-0.0	4.0	16.0	34.0	40.0	30.0	28.0	18.0	-18.0	-22.0
Dunvegan	Mean	...	-6.5	22.3	...	47.1	57.2	60.4	56.9	51.5	38.2	8.1	-4.9
	Maximum	...	39.5	53.0	...	79.0	88.0	85.5	84.0	80.0	70.0	50.0	42.0
	Minimum	...	-48.0	-11.0	...	21.0	32.0	34.0	31.0	23.0	14.0	-29.0	-42.0
Eckville	Mean	-15.5	1.2	19.2	29.9	44.6	53.8	57.7	52.8	50.0	...	...	...
	Maximum	45.0	42.0	47.0	61.0	74.0	79.0	82.0	84.0	83.0	...	...	...
	Minimum	-61.0	-56.3	-27.7	6.0	17.0	26.0	28.0	24.0	18.0	10.0	-24.0	-28.9

MEAN, MAXIMUM AND MINIMUM TEMPERATURES for Meteorological Stations in Alberta for 1909—Continued

STATIONS	MONTHS											
	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Emsburg	Mean	1 3	8 7	24 9	31 8	51 2	60 6	63 8	55 8	41 8	16 8	6 8
	{ Maximum Minimum	{ 38 0 -44 0	{ 39 0 -36 0	{ 56 0 -14 0	{ 64 0 -1 0	{ 83 0 27 0	{ 88 0 36 0	{ 87 0 39 0	{ 84 0 31 0	{ 74 0 15 0	{ 53 0 14 0	{ 38 0 -22 0
Edmonton	Mean	-5 0	5 9	24 5	31 2	50 5	58 8	62 0	55 4	39 4	13 7	10 3
	{ Maximum Minimum	{ 32 0 -50 0	{ 42 0 -39 0	{ 59 0 -19 0	{ 56 0 1 0	{ 79 0 26 0	{ 82 0 35 0	{ 83 0 39 0	{ 88 0 26 0	{ 76 0 3 0	{ 56 0 -27 0	{ 43 0 30 0
Fort Vermilion	Mean	-10 9		13 8		58 7	60 1	55 8			1 29	
	{ Maximum Minimum	{ 14 0 -57 0		{ 45 2 -26 0		{ 80 6 13 5	{ 89 3 28 8	{ 86 8 29 2			{ 39 2 28 2	
Gleichen	Mean	2 1		28 0	30 9	46 8	56 0	61 3	54 9	39 2	18 9	9 9
	{ Maximum Minimum	{ 46 5 -48 0		{ 62 0 -11 0	{ 66 0 2 0	{ 75 0 16 0	{ 85 0 30 5	{ 84 0 37 0	{ 88 5 23 5	{ 77 0 12 5	{ 59 5 -17 0	{ 52 0 -28 0
High River	Mean	2 1	14 2	26 9	30 3	45 5	54 0	61 4	54 8	39 7	19 1	12 0
	{ Maximum Minimum	{ 48 0 -43 5	{ 50 0 -30 5	{ 59 0 -5 0	{ 60 0 9 0	{ 75 5 19 0	{ 84 5 34 0	{ 87 0 33 5	{ 85 0 27 0	{ 73 0 15 0	{ 56 0 19 0	{ 51 0 -26 0
Hillstown	Mean	2 1	6 3	24 9	31 4	48 7	57 2	60 8	53 3	38 7	17 4	13 2
	{ Maximum Minimum	{ 43 0 -52 0	{ 40 7 -36 0	{ 56 0 -14 0	{ 60 0 5 0	{ 80 0 25 0	{ 83 2 33 0	{ 81 0 40 0	{ 81 0 20 0	{ 72 0 10 0	{ 55 0 -21 0	{ 44 0 21 0
Harmattan	Mean	15 1	6 9	20 6	31 0	43 4	51 6					
	{ Maximum Minimum	{ 43 0 -50 0	{ 44 0 -42 0	{ 53 0 -13 0	{ 58 0 8 0	{ 75 0 16 0	{ 76 0 28 0					
Islay	Mean		6 4	13 7	25 5	61 8	63 1	62 2	52 5	34 9	10 8	6 7
	{ Maximum Minimum		{ 31 0 -30 0	{ 38 0 15 0	{ 50 0 2 0	{ 77 0 15 0	{ 86 0 24 0	{ 83 0 22 0	{ 81 0 26 0	{ 50 0 15 0	{ 45 0 30 0	{ 25 0 -30 0
Kneehill	Mean	-4 0		25 0	30 1							
	{ Maximum Minimum	{ 49 0 -55 0		{ 54 0 -17 5	{ 59 0 5 0							

STATIONS		Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Lethbridge.	Mean	7.6	18.9	32.2	35.4	48.6	60.5	65.8	64.6	59.1	45.2	25.3	10.5
	Maximum Minimum	50.9 -40.4	62.1 -26.9	67.9 9.3	65.2 8.5	79.7 21.3	90.0 37.3	91.5 43.8	92.8 34.1	88.0 32.2	78.0 16.2	61.0 15.1	50.8 -21.2
Lethbridge Experimental Farm.	Mean	6.6	19.1	32.1	33.0	47.1	57.5	63.5	62.2	57.8	44.0	24.6	13.8
	Maximum Minimum	48.8 -45.4	56.2 -28.5	65.5 3.5	68.2 3.0	76.9 24.8	84.5 34.5	90.7 39.8	91.0 29.6	87.9 26.8	75.5 10.4	61.4 -17.4	49.4 -28.4
Lacombe	Mean	40.3	47.2	52.5	58.3	81.3	80.0	82.8	86.5	84.5	76.1	53.6	45.0
	Maximum Minimum	55.3 56.1	55.4 -47.6	29.9 21.2	30.6 3.9	47.0 30.9	56.2 30.8	60.3 37.6	56.4 29.4	53.0 23.9	37.5 9.8	16.4 -19.3	10.0 -23.0
Macleod (Police)	Mean	7.5	19.9	29.4	58.4	58.4	58.4	62.3	62.9	58.0	44.7	24.9	14.9
	Maximum Minimum	60.0 45.0	52.0 30.0	53.0 -3.0	61.0 13.0	75.0 25.0	87.5 39.0	91.0 35.5	91.0 34.0	86.0 31.5	78.0 20.0	58.0 -15.0	52.0 -27.0
Medicine Hat	Mean	8.1	14.2	32.4	36.8	54.3	63.0	68.6	69.2	63.0	45.5	25.8	12.6
	Maximum Minimum	48.0 -39.0	50.0 25.8	61.0 0.0	65.0 11.0	80.0 30.0	91.0 38.0	92.0 45.0	95.0 37.0	92.0 32.0	80.0 17.0	63.0 -15.0	43.0 18.0
Peace River Crossing	Mean	-20.8	5.3	23.2	26.9	54.3	57.6	61.4	56.4	51.9	38.6	8.0	-1.2
	Maximum Minimum	-36.0 -56.0	41.0 -51.0	55.0 17.0	56.0 5.0	80.0 30.0	87.0 30.0	86.0 36.0	80.0 30.0	79.0 26.0	76.0 14.0	53.0 36.0	52.0 -40.0
Pembina	Mean	9.2	4.8	51.5	75.0	82.5	83.0	83.0	83.0	82.0	36.6	13.8	5.7
	Maximum Minimum	32.0 57.0	49.0 -35.0	51.5	75.0	82.5	83.0	83.0	83.0	82.0	73.0 -1.0	65.5 -27.0	50.5 36.5
Pakan (Victoria)	Mean	-12.7	-0.3	19.9	26.7	48.2	56.4	61.3	56.3	55.0	37.5	10.6	7.5
	Maximum Minimum	31.1 -60.0	40.0 -43.5	42.5 24.0	55.0 -4.0	74.0 17.0	80.0 33.1	85.5 36.0	84.0 28.0	80.5 27.0	73.0 9.0	55.0 32.0	41.9 30.0
Pincher Creek	Mean.	-1.5	9.0	28.4	31.0	48.0	56.3	60.9	59.4	55.9	43.2	25.6	16.5
	Maximum Minimum	45.0 -48.0	48.0 -30.0	57.0 0.1	57.0 5.0	72.0 24.0	84.0 36.0	88.0 36.0	84.0 30.0	81.0 30.0	69.0 22.0	54.0 -14.0	46.0 26.0

STATION	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Three Hills Creek	Mean Maximum Minimum	-4.2 0.8 36.5 -51.5	22.8 61.5 -16.5	31.0 62.0 5.5	47.9 78.5 17.5	56.3 81.5 32.0	60.8 83.0 37.0	57.5 89.0 28.0	53.1 85.0 23.0	37.9 73.0 11.0	17.6 56.0 -24.0	8.2 44.0 -24.0
Wetaskiwin	(Mean (Maximum (Minimum	-3.9 33.0 -47.0	4.9 48.0 -39.0	22.3 48.0 -20.0	48.9 75.0 25.0	57.8 83.0 30.0	62.1 85.0 43.0	58.2 85.0 31.0	54.2 81.0 28.0	38.0 72.0 15.0	15.0 51.0 21.0	10.7 44.0 -24.0
Waitefield	Mean Maximum Minimum	-10.9 33.0 -52.0	1.0 36.0 -43.0	16.3 43.0 -17.0	49.1 74.5 20.0	57.7 80.5 35.5	61.9 83.2 40.1	58.1 90.0 28.0	54.6 86.8 28.0	37.5 76.0 6.5	12.0 51.0 -24.0	6.6 39.7 -25.2

HOURS OF SUNSHINE, Registered, 1909.

STATIONS	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
EDMONTON— Registered Sun above horizon	88 252	105 275	191 369	196 419	201 492	305 503	304 505	323 446	217 379	126 334	63 258	60 236	2179 4468
MEDICINE HAT— Registered Sun above horizon	106 266	103 280	196 369	187 414	213 480	302 488	300 492	344 441	238 378	156 337	59 270	76 252	2280 4387
LETHBRIDGE— Registered Sun above horizon	120 267	123 280	195 370	231 414	232 480	302 487	344 491	379 441	241 378	186 337	89 270	102 252	2544 4467
LACOMBE— Registered Sun above horizon	117 255	123 276	172 369	213 418	199 489	314 499	300 501	325 445	230 378	144 333	114 262	90 211	2341 4466

HAIL INSURANCE, 1909.

The policy of insuring crops against hail as inaugurated by the Territorial Government in accordance with the provisions of The Hail Insurance Ordinance, has been continued, and the Treasury Department, under whose jurisdiction the Ordinance comes, has kindly furnished the following statement with reference to the amount of crop insured:

Number of Contracts.....	4,601
Number of claims for indemnity.	965

Acreage Insured.

Wheat.....	77,439
Oats.....	179,858
Barley.....	32,914
Flax.....	3,132
Speltz.....	58
Rye.....	2,030

Total.	295,431
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Acreage fully insured.	246,699
Acreage partially insured	48,732

Total .	295,431
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Number of Acres Insured.

At rate of 20c. per acre.	97,668
At rate of 30c. per acre..	42,643
At rate of 40c. per acre	131,354

Total.	271,665
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Number of acres fully insured	246,699
Acreage partially insured reduced to fully insured	24,966

Total	271,665
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Total amount of premium collected	\$84,868.79
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Estimated acreage under crop	941,200
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Approximate proportion of total acreage under crop insured	29%
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Number of acres damaged.	64,803
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Percentage of insured acres damaged	24%
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Expenses.

Indemnity paid	\$152,059.77
Stamps, post cards, etc	292.85
Examiners.	3,989.45
Clerical services	1,686.75

Total Expenses	\$158,028.82
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CROP STATISTICS.

Seeding in April and the early part of May was delayed at least a fortnight by cold, wet weather but thereafter in May and during June the conditions were ideal. With abundance of moisture stored in the ground the long sunny days hurried growth along so rapidly that by the end of June crops throughout the province were at least as far advanced as those of the two preceding years at the same date.

As July was also characterized by good growing weather with considerable rainfall, the crop continued to make splendid progress during that month. This was followed by ideal weather in August for maturing the grain. The heads in consequence filled out with plump, heavy berries, giving a large average yield of high grade in almost every part of the province. The latter part of August and the month of September were exceptionally fine, permitting harvesting and threshing operations to go forward with little interruption. In consequence the crop was saved in almost perfect condition.

There was considerable loss of fall-sown wheat through drought and winter killing. The acreage that suffered most severely was reseeded to spring wheat, oats and barley, or was summer-fallowed for seeding again in July and August for the crop of 1910.

Frost and hail did some damage, but on the whole the province reaped an exceedingly bountiful harvest. The total area reported under crop was 1,242,644, an increase of 48 per cent. over 1908, and the total yield in bushels was 36,761,493, an increase over the previous year of 46 per cent.

A long list could be made of farmers who reaped 40 bushels and over of spring and winter wheat per acre. Not a few fields went over 50 bushels, and some over 60 bushels per acre by threshers' measure.

At least 75 farmers in the province reaped 80 bushels and over of oats per acre and some 17 secured 100 bushels and over, while Mr. A. F. McGill of Lacombe reaped 125 bushels of Abundance oats per acre off 11 acres of breaking.

The total number of crop correspondents was 657. The number of threshers totalled up to 938, as against 890 operating in 1908.

Below will be found tables arranged according to provincial electoral districts showing for each district the total yield, acreage and average yield per acre of the leading grains for the past five years; following this is a table giving a summary of the acreage and yields of the same grains for the past twelve years for the whole province:

CROP STATISTICS

	SPRING WHEAT				WINTER WHEAT				OATS				BARLEY			
	Bushels	Average	Yield per acre	Average yield	Bushels	Average	Yield per acre	Average yield	Bushels	Average	Yield per acre	Average yield	Bushels	Average	Yield per acre	Average yield
Cardston	1905	33,713	2,073	16.26	199,775	41,871	16.84	24.86	130,362	4,020	29.94	36.67	14,439	534	26.06	
	1906	52,910	2,855	18.53	130,070	7,138	30.17		260,033	9,121	31.80		52,014	1,363	38.18	
	1907	116,277	5,718	20.35	387,911	12,789	30.75		333,066	9,280	35.94		14,276	669	21.33	30.06
	1908	234,811	9,371	21.73	360,425	14,153	26.80		364,344	10,034	36.37		26,925	984	27.36	
	1909	182,570	8,404	21.72	735,626	28,227	25.90		708,804	17,111	41.42		18,610	631	29.49	
Macleod	1905	33,713	3,538	9.52	9,788	375	26.10		23,690	531	45.19		4,226	238	17.75	
	1906	41,538	2,194	18.93	13,394	762	17.83		31,731	1,032	40.24		2,616	111	23.56	
	1907	90,278	4,191	21.51	33,744	1,342	25.11	26.87	37,557	1,218	30.69	37.07	1,311	43	30.48	22.87
	1908	196,248	9,127	21.50	48,858	1,483	32.91		60,282	1,503	31.68		2,722	80	34.02	
	1909	344,877	14,500	23.78	105,357	3,911	25.98		203,087	5,360	39.01		4,674	208	22.46	
Lethbridge	1905	76,647	8,128	9.43	46,224	4,190	11.03		77,266	3,688	20.95		4,079	273	14.94	
	1906	204,113	9,225	22.12	128,326	7,558	16.54		312,058	8,273	41.34		16,732	598	27.97	
	1907	274,036	10,920	25.09	134,241	5,235	25.64	21.57	215,110	6,223	34.56	32.37	9,738	415	23.46	24.13
	1908	337,432	17,271	20.69	126,912	4,112	30.86		323,853	10,182	31.80		40,917	1,704	24.01	
	1909	686,885	35,270	19.75	212,852	8,767	24.27		356,327	17,808	30.12		16,308	647	25.20	
Pincher Creek	1905	4,714	222	21.23	141,294	4,938	20.51		234,450	6,925	33.59		7,648	251	30.47	
	1906	84,399	3,599	23.45	246,283	9,704	25.37		504,145	13,235	37.86		14,518	561	25.87	
	1907	25,404	1,775	14.31	172,167	7,583	22.70	25.20	303,398	6,002	32.22	36.16	4,003	175	22.85	30.39
	1908	10,916	486	22.46	218,656	8,175	26.71		234,563	7,746	32.85		4,707	195	24.13	
	1909	28,092	1,287	21.82	193,878	8,182	23.69		212,352	5,223	40.69		17,237	402	42.92	
Clareholm	1905	200,953	10,218	19.60	100,532	4,163	24.14		180,216	5,965	30.43		14,157	600	23.59	
	1906	486,728	20,230	24.05	283,612	11,593	24.46		497,892	12,972	38.37		36,791	1,787	20.58	
	1907	680,721	23,996	28.36	297,500	11,955	24.88	26.35	251,352	8,055	31.22	35.08	26,202	1,080	18.70	21.63
	1908	1,081,293	57,209	18.90	471,399	16,801	28.03		494,133	11,985	33.72		26,382	915	22.27	
	1909	1,497,621	87,780	17.06	278,989	9,836	28.36		783,121	21,499	36.42		26,710	1,086	24.58	
Medicine Hat	1905	60,876	3,834	15.87	1,902	94	20.23		162,338	4,970	32.66		27,974	822	26.73	
	1906	127,319	6,820	18.66	104	6	17.33		104,609	3,906	26.78		17,835	786	22.69	
	1907	76,379	6,723	11.36	17,575	1,038	16.93	21.75	80,573	4,250	20.60	29.54	9,174	448	20.47	24.94
	1908	81,370	10,581	7.68	8,858	335	26.44		60,662	4,069	14.79		3,800	459	8.27	
	1909	317,951	13,945	22.8	33,662	1,382	24.55		378,815	9,650	39.24		37,767	1,115	33.85	
Nanton	1905	26,668	821	32.48	48,491	1,422	34.10		298,846	5,904	50.61		1,518	520	29.19	
	1906	62,959	3,072	20.49	80,309	4,038	19.88		473,465	10,903	43.42		32,385	1,224	26.45	
	1907	154,349	7,916	19.49	215,367	10,129	21.26	23.33	303,800	8,014	38.16	36.54	14,788	687	21.52	24.17
	1908	273,127	14,518	18.81	279,617	9,697	28.83		463,069	14,140	32.74		25,354	1,191	21.28	
	1909	407,411	21,267	19.15	153,744	8,039	19.12		908,742	28,091	32.34		11,713	491	23.85	

DEPARTMENT OF AGRICULTURE

CROP STATISTICS—Continued

	SPRING WHEAT				WINTER WHEAT				OATS				BARLEY			
	Lushels	Acre	Yield per acre	Average yield	Bushels	Acres	Yield per acre	Average yield	Bushels	Acres	Yield per acre	Average yield	Bushels	Acres	Yield per acre	Average yield
1905	5,096	247	20 51		80,089	2,446	32 73		492,816	7,848	62 79		27,137	972	27 91	
1906	27,357	1,157	23 64		34,395	2,738	19 84		1,283,980	24,237	52 17		90,455	2,566	35 25	
1907	20,222	1,560	12 71	20 12	316,162	25,098	12 17	23 15	529,452	17,089	30 98	42 76	45,036	1,349	33 38	28 57
1908	85,256	4,252	20 05		676,678	21,745	30 84		1,739,964	39,322	44 24		87,323	3,738	23 36	
1909	139,885	6,359	21 33		321,389	9,413	34 13		2,663,238	67,942	39 15		92,268	3,350	27 51	
1905					3,106	100	31 06		13,398	347	38 61		29	1	29 00	
1906									600	35	17 14		114	6	19 00	19 89
1907					214	10	21 40		1,274	60	21 23		36	2	18 00	
1908																
1909																
1905	18,989	857	22 15		18,965	673	28 17		584,761	13,983	41 81		91,083	2,940	30 98	
1906	34,071	1,213	28 80		17,100	565	28 08		709,151	15,643	45 33		74,766	2,499	29 91	
1907	32,351	1,844	17 04	21 98	67,472	3,315	19 19		296,639	7,785	38 10	43 09	53,416	1,927	27 71	30 13
1908	32,324	1,363	24 17		76,751	2,921	26 27		652,825	15,519	42 06		100,836	3,284	30 70	
1909	81,356	3,990	20 37		47,417	2,713	17 47		1,148,105	25,762	44 56		121,253	3,997	30 36	
1905	372	13	25 53		5,536	219	25 27		142,211	3,638	39 09		36,225	723	50 10	
1906	763	42	18 16		23,450	1,000	23 45		125,413	2,895	43 32		23,895	836	28 38	
1907	840	74	11 35	19 45	23,709	1,461	16 22	20 79	123,876	4,367	28 36	39 52	19,151	982	19 50	29 87
1908	2,287	141	16 21		41,840	1,691	26 51		115,721	2,998	38 59		26,163	1,158	22 59	
1909	8,689	404	21 5		21,292	1,440	14 78		430,001	9,816	44 87		75,590	2,361	32 01	
1905	4,823	232	20 78		2,438	92	26 50		228,724	5,169	44 24		27,316	863	31 65	
1906	13,451	484	27 79		14,773	588	25 12		622,720	12,638	49 27		51,241	1,880	27 23	
1907	18,325	1,005	18 23	23 69	33,602	2,085	16 11	26 81	322,008	9,648	33 37	45 32	23,917	1,396	50 13	26 77
1908	37,085	1,447	25 62		127,689	3,921	32 56		842,358	19,119	44 05		68,941	2,572	27 07	
1909	159,380	6,670	23 89		43,821	1,605	27 3		1,977,634	41,536	47 61		128,349	4,759	27 14	
1905	6,559	262	25 03		27,957	992	28 17		349,472	8,920	39 17		101,950	3,010	33 87	
1906	21,660	1,259	19 58		141,707	6,390	22 18		813,777	18,184	44 86		154,028	5,197	29 63	
1907	6,744	455	14 82	22 74	71,387	4,241	17 54	24 85	569,889	9,202	29 15	38 99	73,593	2,653	20 14	27 27
1908	21,878	890	24 58		272,121	8,776	31 00		1,214,959	29,547	41 11		194,312	7,210	26 65	
1909	72,778	2,966	24 53		42,937	2,096	20 47		1,974,309	50,199	39 33		270,862	10,070	26 89	
1905	13,665	617	22 14		3,426	119	28 79		246,197	8,450	29 13		120,889	3,898	31 01	
1906	16,824	797	21 10		21,176	715	33 81		269,040	9,600	28 03		181,513	1,811	30 65	
1907	5,349	427	12 52	22 62	15,448	1,058	14 60	20 87	326,430	10,500	27 15	32 72	34,248	1,929	17 75	26 77
1908	12,635	665	19 00		27,824	1,357	20 50		473,040	13,318	32 88		52,353	2,593	20 19	
1909	51,780	1,926	26 88		33,225	1,739	19 1		861,769	23,814	36 18		114,659	3,879	29 55	

Stettler..	1903	8,412	278	30 25	9 09	23	1	23 00	22 14	154,538	3,180	48 59	34 51	18,704	517	36 17
	1906	44,715	2,907	15 38		23	214	32 49		177,247	6,163	28 75		27,731	1,283	21 44
	1907	76,941	4,338	17 63		6,953	749	32 01		331,861	9,217	36 00		37,243	1,731	24 26
	1908	194,522	9,386	20 72		17,236	247	10 53		638,303	17,349	36 79		63,054	2,439	26 35
	1909	313,710	16,513	18 99		2,001				729,909	22,972	32 10		61,655	2,515	24 50
Sedgewick	1905	4,760	159	29 93						56,041	1,148	48 81		3,152	108	29 73
	1906	36,472	1,654	22 05		25	1	25 00		133,398	3,551	38 34		10,702	425	22 35
	1907	68,952	3,922	17 58	15 56	57	2	35 00	15 51	253,398	3,551	38 34	30 70	10,702	527	20 00
	1908	281,435	16,650	16 90		998	77	17 30		536,623	17,022	33 70		28,338	1,645	19 23
	1909	522,373	36,374	14 36		1,324		17 19		749,583	28,206	29 57		40,810	1,980	20 61
Innisfail...	1905	15,321	630	24 31						289,988	7,336	39 52		81,527	2,727	29 89
	1906	22,207	608	20 07		8,845	278	34 68		253,043	8,004	31 68		84,806	2,786	30 47
	1907	3,409	259	13 16	21 32	8,652	832	10 39	25 48	205,971	8,030	25 68	33 54	41,566	1,981	20 98
	1908	14,728	714	20 62		38,906	1,419	27 41		365,311	10,821	33 75		74,126	2,971	24 92
	1909	21,508	940	22 87		7,436	404	15 92		576,301	16,229	35 50		92,255	3,672	25 11
Red Deer.	1905	7,614	241	31 59						127,405	2,619	48 64		16,647	433	38 44
	1906	22,288	921	24 19		21,583	710	30 39		420,170	10,318	40 72		73,815	2,434	30 32
	1907	5,401	323	16 72	22 80	25,965	1,133	22 91	24 76	172,855	5,923	29 18		20,673	867	23 84
	1908	12,472	598	20 85		34,363	1,121	30 65		350,666	9,644	36 36		50,453	2,057	24 52
	1909	16,299	727	22 41		15,350	963	15 94		392,701	12,397	31 67		78,891	2,992	23 37
Lacombe...	1905	27,219	993	27 41						717,919	15,048	47 70		37,180	6,264	5 93
	1906	21,792	924	23 58		3,047	122	24 97		483,341	12,861	37 58		78,735	2,638	29 84
	1907	12,142	796	15 25	21 93	11,374	500	22 74	22 57	352,365	12,870	27 37	35 82	32,951	1,562	21 09
	1908	38,825	1,911	20 31		5,627	1,136	25 19		452,390	12,641	35 78		73,233	2,948	24 84
	1909	32,930	1,611	20 44		20,231	1,270	15 32		638,216	20,407	31 27		81,736	3,901	20 95
Ponoka...	1905	46,360	1,821	25 45						410,708	11,143	36 85		128,051	4,862	26 33
	1906	43,027	1,782	24 14		2,444	108	22 63		392,376	10,655	36 82		107,121	3,828	27 98
	1907	19,088	1,033	18 45	22 03	952	36	26 44	20 70	227,966	9,089	25 08	35 93	37,871	2,099	18 04
	1908	38,825	1,911	20 31		5,627	1,136	25 19		459,679	12,669	36 28		70,069	2,753	25 45
	1909	43,337	2,106	20 57		9,794	550	17 88		542,273	13,026	41 62		83,400	2,536	32 92
Wetaskiwin.	1905	40,704	1,645	24 74						519,676	11,827	43 93		94,560	3,406	27 76
	1906	64,109	2,650	24 19		3,206	160	20 37		572,274	19,000	30 11		106,986	3,653	29 28
	1907	24,441	1,309	17 34	21 97	3,968	169	23 42	21 74	546,844	19,322	28 30	33 79	62,001	3,176	19 52
	1908	30,438	1,590	19 14		1,906	99	19 25		579,347	14,441	40 11		52,064	2,110	24 67
	1909	28,973	1,295	22 38		9,314	418	22 27		876,408	26,969	32 45		65,949	3,382	19 5
Leduc.	1905	52,798	2,238	23 59						430,415	11,031	39 01		89,316	3,014	29 63
	1906	54,777	2,147	25 51		696	40	17 40		465,643	12,140	38 35		73,949	2,454	30 13
	1907	24,527	1,776	13 81	21 07	3,656	176	20 77	22 21	520,012	15,451	33 65	32 80	57,719	3,120	18 50
	1908	42,028	2,232	18 82		8,492	310	27 39		560,383	18,026	31 08		66,440	3,466	19 16
	1909	21,256	881	24 17		3,063	193	15 87		491,777	18,596	26 45		81,947	3,658	23 4
Camrose	1905	139,077	4,974	27 96						946,335	21,178	44 68		146,761	4,845	30 29
	1906	174,985	8,642	20 24		214	11	19 45		729,380	24,206	30 13		98,380	4,793	20 52
	1907	97,734	6,186	15 79	19 42	4,196	253	19 10	18 30	626,114	21,359	29 31	33 94	101,207	4,617	21 92
	1908	174,935	9,451	18 50		3,180	146	21 78		1,065,212	28,208	37 76		109,604	4,83	26 20
	1909	139,720	8,144	17 15		5,233	328	15 95		1,345,214	43,871			123,725	5,458	22 66

DEPARTMENT OF AGRICULTURE

CROP STATISTICS--Continued

	SPRING WHEAT				WINTER WHEAT				OATS				BARLEY			
	Bushels	Acre	Yield per acre	Average yield	Bushels	Acreage	Yield per acre	Average yield	Bushels	Acreage	Yield per acre	Average yield	Bushels	Acreage	Yield per acre	Average yield
1905	34,456	1,478	23 31	19 35	400	17	23 52	19 17	89,281	1,807	49 40	36 44	13,309	501	25 56	23 05
1906	29,145	1,599	14 47		281	19	14 78		73,418	2,610	28 12		6,470	380	17 02	
1907	108,590	6,081	17 85		92	5	18 40		288,687	8,756	32 97		33,906	1,538	21 85	
1908	245,989	12,146	20 52		32	1	32		587,250	15,326	38 31		43,714	1,793	24 38	
1909																
1905	1,822	85	20 70		43	3	14 33		37,354	986	37 86		2,360	62	38 06	
1906	50,444	1,887	26 53		270	18	15 00		180,270	4,301	41 91		19,185	683	28 08	
1907	25,683	1,555	16 31	20 60	781	41	19 04	17 31	123,800	4,000	30 95	35 08	9,820	411	23 89	24 75
1908	61,319	4,003	15 31		31	3	10 35		236,070	8,321	30 77		22,370	1,111	20 13	
1909	248,280	11,278	22 01						693,011	19,175	36 14		70,678	2,760	25 00	
1905	71,279	3,045	23 40		4,542	224	20 27		484,377	12,531	38 65		94,441	2,704	34 92	
1906	114,877	5,187	22 14		412	13	24 00		481,465	11,404	42 21		73,001	2,447	29 83	
1907	84,662	6,157	13 75	18 44	3,525	228	15 46	16 05	503,417	17,539	28 70	32 27	60,249	3,303	20 96	25 72
1908	155,416	9,503	16 35		2,271	107	25 41		779,862	27,248	28 62		92,654	3,993	23 27	
1909	196,327	10,033	19 87		1,612	210	7 67		133,872	36,118	31 36		151,299	6,251	24 2	
1905	138,171	5,730	24 11		780	44	17 72		486,998	13,415	36 30		129,538	4,848	26 71	
1906	230,003	5,987	38 41						694,118	15,628	44 41		187,100	5,495	31 04	
1907	50,828	3,262	15 58	25 89	6,823	278	24 54	27 07	453,962	13,903	32 65	37 24	85,978	4,531	18 97	27 05
1908	64,089	3,247	19 73		8,155	271	30 08		515,140	13,055	39 45		96,952	3,684	26 31	
1909	55,557	2,373	21 59		4,595	159	28 90		680,058	20,009	33 98		162,259	5,912	27 61	
1905	135,399	6,834	19 81		7,737	334	23 16		364,101	10,644	34 20		101,871	4,082	24 95	
1906	178,960	7,368	24 28		536	44	12 18		346,229	9,112	37 99		110,709	3,636	33 18	
1907	52,699	3,625	14 53	20 15	4,985	283	17 61	17 71	242,675	8,162	29 73	33 31	34,328	2,578	13 31	26 15
1908	63,079	3,190	19 77		7,940	401	19 80		504,748	9,414	32 55		85,671	2,820	30 37	
1909	52,903	2,945	17 96		10,168	710	14 35		441,274	13,672	32 20		117,817	4,495	26 21	
1905	2,476	52	47 61						11,889	210	56 61		8,065	191	42 22	
1906																
1907	851	36	23 63	21 80	750	36	21 11	20 71	18,277	292	62 59	36 72	820	62	13 22	22 11
1908	2,349	178	13 19		172	9	16 11		23,311	860	27 10		7,083	401	17 66	
1909		9	35 06						9,644	357	27 20		1,496	136	11 00	
1905	2,476	127	19 49		1,361	119	13 11		13,314	410	32 47		8,065	116	69 52	
1906	2,210	100	22 10	18 68					14,586	632	22 73		148	148	16 20	
1907	2,673	168	15 91						22,770	876	25 99	26 66	2,613	130	20 10	24 51
1908	5,310	270	19 66		46,823	1,889	24 78		46,823	1,889	24 78		10,946	155	24 05	
1909	1,882	114	16 5		80,496	2,862	28 11		80,496	2,862	28 11		18,194	886	20 87	

St. Albert	1905	58,547	2,701	21 67	4,866	249 115	19 54	20 85	455,684	11,775	36 17	62 249	2,829	22 00
	1906	48,046	2,155	22 25	2,634	115	22 50		470,454	11,037	29 28	86,629	3,020	25 68
	1907	4,145	325	22 75					269,075	11,917	31 37	28,355	1,552	18 27
	1908	31,649	1,612	19 63	826	51	16 16		502,355	14,073	35 69	82,388	2,303	35 86
	1909	13,741	717	19 14	3,453	130	23 00		602,960	17,412	34 62	121,499	3,167	24 09
Sturgeon	1905	148,369	5,916	25 07	258	5	47 60		652,760	16,251	40 16	143,917	5,059	28 44
	1906	105,111	4,372	24 04	12,597	626	20 12		455,123	9,786	43 39	127,514	3,692	34 53
	1907	58,084	1,964	14 29	1,681	72	23 31	22 06	405,259	11,670	34 72	56,474	3,035	18 60
	1908	58,247	3,219	18 09	4,631	148	31 29		564,711	14,937	37 80	117,440	4,212	27 50
	1909	27,150	1,392	19 50	2,847	146	19 50		606,450	17,519	34 66	147,560	5,342	27 62
Victoria	1905	138,240	6,407	24 69	15,043	552	27 25		379,754	19,150	37 30	101,540	4,096	25 52
	1906	153,548	8,031	22 85					509,762	18,387	22 85	159,656	5,068	31 50
	1907	85,794	5,955	14 50	841	70	16 82	25 60	357,720	13,350	26 79	75,759	3,953	18 55
	1908	146,942	7,820	18 79	955	34	28 08		421,057	12,727	33 08	110,894	6,348	17 46
	1909	146,786	7,484	19 50	1,365	83	18 85		757,804	21,315	34 61	201,984	10,512	19 52
Paken	1905	704	72	9 77					8,495	588	21 89	410	54	7 59
	1906	2,535	124	20 44					16,771	523	39 64	226	24 49	
	1907	10,585	580	18 25	363	12	30 25	30 25	72,132	2,670	27 63	14,317	652	21 55
	1908	14,035	749	18 73					54,466	2,048	26 59	16,316	678	21 06
	1909	30,041	1,385	21 69					85,201	2,836	30	25,124	1,115	22 53
Athabasca	1905		68	32 79	81	6	13 50		9,903	155	73 37	1,547	39	39 66
	1906	2,230	932	21 64	305	35	8 71	9 41	30,119	1,058	28 46	10,277	282	36 44
	1907	20,173	31	31 09					1,777	60	29 61	460	15	50 66
	1908	964	105	23 58					28,438	649	43 81	4,511	178	25 53
	1909	2,477												
Peace River.	1905													
	1906													
	1907	7,783	292	26 68					6,516	413	15 77	5,569	130	42 83
	1908	22,704	674	33 68					3,998	72	55 52	5,546	227	24 43
	1909	11,425	732	15 60					4,157	167	24 89			

DEPARTMENT OF AGRICULTURE

CROP STATISTICS—Continued

	FLAX				RYE				SPELTZ			
	Bushels	Acreage	Yield per acre	Average yield	Bushels	Acreage	Yield per acre	Average yield	Bushels	Acreage	Yield per acre	Average yield
Cardston	1905			14 30	2,052	102	20 11	20 11				
	1906										11 48	13 26
	1907										17 83	
	1908	246	15 68						356	31		
Macleod	1909	1,780	12 11						214	12		
	1905	27	9 00									
	1906											
	1907			5 33	279	18	15 50	15 50				
Lethbridge	1908											
	1909	165	5 00									
	1905	225	37 50									
	1906	4,276	414	10 32	170	8	21 25	11 84	1,015	59	17 20	18 75
Pincher Creek	1907	4,823	1,051	4 78					418	10	41 80	
	1908	10,064	1,475	6 82	345	28	12 32		670	44	15 22	
	1909	17,166	1,637	10 48	77	14	5 6		109	5	20 8	
	1905								94	6	15 66	
Claresholm	1906	332	18	18 44								36 68
	1907	120	20	6 00								
	1908								34	1	34 00	
	1909	281	28	10 03					569	12	46 75	
Claresholm	1905	33	5	6 60								
	1906	11,556	981	11 77					349	20	17 45	
	1907	29,369	3,125	9 39	142	12	11 83		2,167	80	27 08	
	1908	3,714	436	8 51	28	3	9 33		695	36	19 30	20 13
1909		1,467	121	12 13					2,798	160	17 48	
									836	44	19	

Medicine Hat	1905	1,048	67	15 64	7 55	138	11	12 54	12 54	343	12	28 55	
	1906	777	69	11 26						811	25	32 44	30 03
	1907	489	120	4 08						5	1	5 00	
	1908	3,127	532	5 87						10	3	3 33	
	1909	1,823	174	10 17						933	29	32 16	
Nanton	1905	1,125	98	11 58		55	3	18 33		586	18	31 44	
	1906	10,350	1,537	6 69						136	10	13 60	25 78
	1907	7,422	821	9 04									
	1908	6,761	858	7 88									
	1909	2,660	454	5 85									
High River	1905									576	15	38 40	38 40
	1906	3,620	300	12 06									
	1907	1,702	257	6 62	8 12								
	1908	9,039	1,237	7 30									
	1909	911	87	10 47									
Rocky Mountain	1905												
	1906												
	1907												
	1908												
	1909												
Okotoks	1905	38	2	19 00		249	19	13 10		413	26	15 88	15 88
	1906	246	10	24 60									
	1907	187	37	5 05	17 15				17 05				
	1908	1,269	104	12 00		639	33	20 27					
	1909	8,089	420	19 25		924	56	16 5					
Cochrane	1905	58	5	11 60									
	1906												
	1907	10	2	5 00	21 28				28 25				20 00
	1908	378	41	9 21		100	5	20 00					
	1909	4,958	206	24 06		1,369	47	29 01		420	21	20 00	

CROP STATISTICS—Continued

	FLAX				RYE				SPELTZ			
	Bushels	Acreage	Yield per acre	Average yield	Bushels	Acreage	Yield per acre	Average yield	Bushels	Acreage	Yield per acre	Average yield
1905	.....	94	12.06	11.61	56	2	28.00	28.00	.....	.....	.....	36.42
1906	1,134	21	5.19	.....	.....	.....	.....	.....	.....	.....	.....	.....
1907	109	555	12.51	.....	.....	.....	.....	.....	.....	69	36.42	.....
1908	6,946	4,498	11.52	.....	.....	.....	.....	.....	.....	.....	.....	.....
1909	51,822	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1905	650	61	10.65	.....	.....	.....	.....	.....	.....	.....	.....	.....
1906	1,804	163	11.06	.....	1,737	55	31.58	.....	565	16	35.31	.....
1907	143	15	9.53	10.39	430	19	22.63	24.82	.....	.....	.....	24.31
1908	2,314	342	6.76	.....	881	48	19.19	.....	564	38	14.84	.....
1909	4,305	306	14.06	.....	1,692	69	24.51	.....	718	22	32.63	.....
1905	52	5	10.40	.....	1,739	59	29.47	.....	.....	.....	.....	.....
1906	104	17	6.11	.....	220	14	15.71	.....	314	10	31.40	.....
1907	41	4	10.25	10.02	1,292	100	12.92	18.58	.....	.....	.....	.....
1908	385	45	8.55	.....	92	6	15.33	.....	541	22	24.59	24.21
1909	1,151	102	11.28	.....	411	23	17.87	.....	162	10	16.2	.....
1905	1,210	56	21.60	.....	.....	.....	.....	.....	.....	.....	.....	.....
1906	1,495	343	4.35	.....	55	3	18.33	.....	460	10	46.00	.....
1907	2,254	402	5.60	7.63	98	4	24.50	16.60	1,082	45	24.04	.....
1908	8,261	1,019	8.10	.....	.....	.....	.....	.....	163	3	54.33	.....
1909	10,452	1,282	8.15	.....	179	13	13.76	.....	761	39	19.33	.....
1905	183	22	8.31	.....	.....	.....	.....	.....	.....	.....	.....	.....
1906	1,624	198	8.20	.....	.....	.....	.....	.....	.....	.....	.....	.....
1907	1,461	203	4.82	6.63	.....	.....	.....	11.13	342	17	20.11	18.65
1908	7,761	1,163	6.67		23	1	23.00		356	32	11.12	
1909	11,069	1,648	6.71		144	14	10.27		738	28	26.35	

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ANNUAL REPORT, 1909

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SUMMARY OF THE ACREAGE AND YIELDS of the Leading Grains during the last Twelve Years.

	Year	Crop area in acres	Total yields in bushels	Average yield per acre	Average yield
Spring Wheat...	1909	324,472	6,155,455	18.97	20.62
	1908	212,677	4,001,503	18.81	
	1907	123,935	2,261,610	18.25	
	1906	115,502	2,664,661	23.07	
	1905	75,353	1,617,505	21.46	
	1904	47,411	786,075	16.58	
	1903	59,951	1,118,180	18.65	
	1902	45,064	850,122	18.86	
	1901	34,890	857,714	24.58	
	1900	30,361	583,806	19.22	
	1899	35,090	833,123	23.74	
	1898	31,348	792,417	25.27	
Winter Wheat...	1909	102,167	2,312,344	22.63	22.51
	1908	104,956	3,093,422	29.47	
	1907	83,965	1,932,925	20.66	
	1906	61,625	1,301,359	21.11	
	1905	32,174	689,019	21.41	
	1904	8,296	152,125	18.33	
	1903	3,440	82,418	23.95	
Oats.....	1909	693,901	24,819,661	35.76	36.42
	1908	431,145	15,922,974	36.93	
	1907	307,093	9,247,914	30.11	
	1906	335,728	13,136,913	39.12	
	1905	242,801	9,514,180	39.18	
	1904	180,698	5,609,496	31.04	
	1903	162,314	5,187,511	31.95	
	1902	118,997	3,776,976	31.74	
	1901	104,533	4,253,284	40.68	
	1900	77,616	2,625,581	33.82	
	1899	51,929	2,189,441	42.16	
	1898	38,964	1,734,197	44.50	
Barley	1909	107,764	3,310,332	30.72	26.85
	1908	77,876	1,949,164	25.03	
	1907	54,698	1,082,460	19.78	
	1906	73,588	2,157,957	29.32	
	1905	64,830	1,773,914	27.36	
	1904	61,549	1,608,241	26.12	
	1903	42,219	1,077,274	25.51	
	1902	22,201	473,108	21.31	
	1901	13,483	442,381	32.81	
	1900	9,256	234,971	25.37	
	1899	6,655	178,395	26.80	
	1898	8,742	279,826	32.00	
Flax.....	1909	12,479	131,531	10.54	10.79
	1908	9,262	73,762	7.96	
	1907	6,488	50,002	7.87	
	1906	3,647	38,491	10.65	
	1905	581	8,337	14.34	
	1904	367	5,003	13.63	
	1903	830	7,753	9.34	
Speltz.....	1902	373	4,476	12.00	23.66
	1909	269	6,369	23.67	
	1908	484	9,697	20.03	
	1907	151	3,346	22.15	
	1906	385	11,423	29.67	
	1905	178	4,419	24.82	
Rye.....	1904	112	2,426	21.66	17.98
	1909	1,592	25,801	16.20	
	1908	1,250	22,625	18.10	
	1907	591	10,595	17.91	
	1906	1,139	22,462	19.70	

Total crop area, 1909,	1,242,644 acres.
Total crop area, 1908,	837,641 acres.
Total crop area, 1907,	576,821 acres.
Total crop area, 1906,	591,614 acres.
Total crop area, 1905,	415,917 acres.
Total crop area, 1904,	298,433 acres.

NOTE.—All yields shown are from thresher's measure and not by weight.

HARVEST HELP.

An abundant harvest caused anxiety to farmers in different parts of the province as to whether there would be sufficient help available to save the crop. Arrangements were accordingly made with the railway authorities in running their harvest excursions to ticket men to the different stations throughout the province, where help was needed, at very low rates.

The Department also sent Mr. C. Bristow, one of the regular staff, as its representative to Winnipeg, to see that the province secured its proper quota of men and to attend to their distribution. The work was so well done that not a single complaint was heard of a congestion of men at any point, nor of any portion of the province suffering from an insufficient supply of help.

III.—IMMIGRATION AND COLONIZATION

At no time in the history of the Canadian West has there been so many people looking to this stretch of country as a possible home. The immigration returns show that an ever increasing volume of settlers continues to pour in from the old land across the Atlantic. The congested areas of Europe, and particularly Great Britain, have many hundreds of thousands of people that were they out on land of their own would be much better off individually and more valuable as citizens.

But the resources and possibilities of the Canadian West are also attracting the attention of the many Canadians who in years gone by were forced to go across the boundary into the United States to seek work. These Canadians, or their children, having acquired some of the American keenness and enterprise, are returning to take advantage of the vast area of fertile land awaiting settlement. With them are coming large numbers of Americans, men with wide experience of the cultivation of prairie soils under conditions somewhat similar to conditions here. These men have made the very best of citizens, finding the soil very fertile, the climate delightful, the winter climate not anything like dreadful as they had been taught to believe, and in fact everything so very favourable that to say they are delighted is putting it mildly. They are enthusiastic and waste no time in advising their friends to sell out and join them. In this way they have become the very best kind of immigration agents.

In all this movement Alberta has had her advocate, and today the province is much talked about. The farmers of the Pacific Coast States have become greatly interested in Alberta, and the holding of the Alaska, Yukon and Pacific Exposition at Seattle during the summer presented an excellent opportunity of making known the resources and possibilities of the province, not only to

the Pacific Coast States but to the whole union. It was decided therefore to make an exhibit there. Space was applied for in the agricultural building and an excellent exhibit set up. The main feature of the design used was the cowboy scene used so successfully at the Dominion Exhibition the previous year. It represented a wheat field growing across a well beaten trail with a cowboy coming along the trail and surprised to find the field, the intention being to represent "another trail cut off." The exhibit was in charge of Mr. F. W. Brown, of Edmonton, and Mr. T. N. Webster, of Calgary.

In addition to this, assistance was given to the Boards of Trade at Macleod, Lethbridge, Cardston and Taber towards making a display at the exposition in connection with the Dry Farming Congress at Billings, Montana. The Lethbridge Board of Trade made the most striking exhibit at the exposition and was fortunate enough to win first place for Alberta Red Winter Wheat with Macleod in third place. The exhibit was also awarded premium place for the best display of winter wheat on exhibition. Other excellent awards were won, including second prize for the best display by State or Province.

Assistance was also given to the Lethbridge and Macleod Boards of Trade towards making exhibit and display at the Corn Exposition at Omaha.

Later in the year assistance was also given to the Boards of Trade of Edmonton and Strathcona towards making an exhibit at the International Live Stock Show at Chicago and the Winter Fat Stock Show at Guelph, Ontario.

IV.—MUSEUM

The policy started a few years ago of obtaining a certain amount of material for a museum or for decorative purposes has been continued. The idea is that if a little is obtained each year, and particularly if funds are available to obtain any excellent specimen that offers, a very nice collection can be gathered gradually at a minimum of expense. It is also possible to obtain specimens now that in a few years may not be obtainable at any price.

During the year the following have been obtained:

- 3 moose heads.
- 1 cross fox.
- 1 pair sharp tailed grouse.
- 1 case sharp tail grouse.
- 1 pair Canadian spruce grouse.
- 1 pair white tailed ptarmigan (summer plumage).
- 1 pair white tailed ptarmigan (winter plumage).
- 1 pair ruffed grouse.
- 1 female ruffed grouse, skin specimen.
- 1 pair mallard duck.
- Shoveller duck (male).
- 1 pair teal, green wing.
- Merganser, red breasted (male).
- Widgeon (male).
- 1 pair lesser scaup.
- Longtail (male).
- Buffle head (male).
- Horned grebe (male).
- Western grebe (male).
- 1 pair franklin gulls.
- Northern phalarope (female).

Mr. Percy Gregson, Blackfalds, kindly donated to the Department his collection of insects and curios. There are nearly 4,000 specimens in the collection, covering a wide range of Alberta insects, as well as a few from other lands. This should lay the foundation of a collection that will be of great value to students of entomology and also to the general public.

V.—FRUIT EXPERIMENT STATIONS

The work of the fruit experiment stations was continued under the supervision of the late T. B. R. Henderson. The work was continued on all the stations. At a few stations the winter proved very hard on many of the trees. These will be replaced and the experiment continued year after year until definite knowledge is obtained. At some of the stations it is apparent that winter killing was due to the lack of a sufficient supply of moisture in the soil to carry the plants through the winter. Confirmatory tests are required to thoroughly demonstrate this point as a positive fact. At any rate sufficient evidence is to hand to show that where the trees were supplied with a good store of moisture there was less winter killing than at those stations where the cultivation was not such as to store an abundant supply in the soil. There may have been other conditions at work, however, and only continued experiment will show this.

All the stations were visited twice and a plat made where each tree was planted for future reference. In some cases the trees had been planted in an irregular manner, that is, plum trees had been set amongst apple trees, etc. These have all been straightened out, putting each kind by itself.

VI. - VITAL STATISTICS

The policy of the Department in appointing postmasters throughout the province as registrars of vital statistics under the provisions of the Vital Statistics Act of 1907 has proven very satisfactory, as with the increased number of registrars much fuller and more accurate returns of births, marriages and deaths have been received. At the end of 1908 there were 412 registrars holding office throughout the province. During the year 1909, 112 new appointments were made, 62 resignations accepted, and others appointed in their places, while three offices were closed, making a total of 527 registrars at the end of 1909.

BIRTHS.

The total number of birth registrations on file for the year 1909 is 6,897 or an increase of 2.75 per cent. The figures for 1909 in the following tables are of registrations received in the Department up to December 31st, 1909, whereas the figures for 1908 were based on returns received up to and including the month of March, 1909, and it is reasonable to expect a greater percentage of increase of all registrations over 1908 than there appears in 1908 over 1907.

The masculinity of the births, *i.e.* the number of males to each 1,000 female births for the year, was 1,086.

MARRIAGES.

The total number of marriage registrations received during 1909 as per returns, was 2,384 as compared with 2,032 received in 1908, or an increase of 352. The mean marriage age in 1909 is shown for males, 28.94 and for females 24.22.

DEATHS.

The total number of death registrations received for the past year was 2,662, being 1,559 males and 1,103 females; showing a total increase of 474, or an increase of 318 male and 156 female deaths over 1908; being equivalent to a death ratio of 2.59 births.

Applications were received in the Department during the year for 259 certified extracts of registrations being an increase of 159 over 1908. Twenty-five searches of the records were made on request, and 98 authorities to register events were granted.

TOTAL REGISTRATIONS of all Births, Marriages and Deaths for each respective month of the year 1909.

MONTH	BIRTHS	MARRIAGES	DEATHS
January	589	171	192
February	525	151	207
March	623	126	254
April	545	185	211
May	557	161	239
June	511	263	201
July	558	192	169
August	597	191	192
September	618	209	296
October	601	229	252
November	518	215	241
December	619	285	208
Totals	6,897	2,384	2,662

CERTIFIED EXTRACTS, SEARCHES, AUTHORITY TO REGISTER, 1909.

259 Certified Extracts.
 89 Authorities to register.
 25 Searches of records.

REGISTRATIONS received from Registrars throughout the respective Electoral Districts, 1909.

	BIRTHS			MARRIAGES	DEATHS		
	MALE	FEMALE	TOTAL		MALE	FEMALE	TOTAL
Alexandra.	66	58	122	31	25	22	47
Athabasca..	27	27	54	8	10	5	15
Calgary City.	417	407	824	545	257	159	416
Camrose	125	112	237	75	34	25	59
Cardston	65	63	128	23	21	14	35
Clareholm	60	55	115	34	28	25	53
Cochrane	47	41	88	12	13	7	20
Didsbury	83	91	174	40	34	29	63
Edmonton City	271	263	534	298	179	128	307
Gleichen	31	28	59	8	16	6	22
High River	52	59	111	26	21	15	36
Innisfail.	52	61	113	48	16	25	41
Lacombe	71	65	136	38	25	21	46
Lac Ste. Anne	37	31	68	11	13	6	19
Leduc	50	58	108	19	18	16	34
Lethbridge	115	95	210	50	37	32	69
Lethbridge City.	111	119	230	165	106	68	174
Macleod	48	42	90	39	31	20	51
Medicine Hat	151	143	294	98	59	45	104
Nanton	60	68	128	34	26	17	43
Okotoks	31	29	60	14	15	8	23
Olds	68	71	139	25	25	18	43
Pakan	97	93	190	27	38	31	69
Peace River	7	6	13	4	2	3	5
Pembina	21	21	42	9	6	7	13
Pincher Creek	42	41	83	29	20	10	30
Ponoka	61	56	117	13	29	12	41
Red Deer	50	47	97	46	37	45	82
Rocky Mountain.	91	92	183	70	43	26	69
Sedgewick.	123	101	224	49	26	21	47
St. Albert	90	76	166	41	42	28	70
Stettler.	94	94	188	62	48	38	86
Stony Plain	46	33	79	5	29	14	43
Strathcona	102	107	209	83	35	24	59
Sturgeon	40	43	83	25	10	7	17
Vegreville	251	204	455	86	61	44	105
Vermilion	94	81	175	50	26	12	38
Victoria	212	165	377	82	55	48	103
Wetaskiwin.	115	79	194	62	43	22	65
Totals	3,572	3,325	6,897	2,384	1,559	1,103	2,662

Ratio of Births, Male to Female, and ratio of Births to Deaths, 1909.

Births of males to 1,000 births of females, 1,086.

Ratio of births to deaths, 2.59.

MARRIAGES (Rights of Contracting Parties.

BRIDEGRISMS.																				
BRIDES.	English Speaking Countries				OTHERS															
	Canada	United Kingdom	United States	Totals	Germany	Russia	Austria	Scandinavia	France	Belgium	Denmark	Sweden	Italy	Greece	Switzerland	China	Others	Totals	Grand Totals	
English Speaking Countries	514	124	137	775	3	2	1	3	1	1	1	1	1	1		2	3	789		
Others	United Kingdom.	101	426	563	2	1	1	3		1	1	1	1	1			3	577		
	United States	156	53	339	4	7	2	9	1	1	9						2	583		
	Totals	771	603	512	1,886	9	10	3	15	1	2	10	1	1		2	7		1,949	
	Germany	8	6	3	17	6	53	1										24		
	Russia						12	3									3	77		
	Austria	3	2	6	11		3	174		1								189		
	Scandinavia	2	3	6	11			31	6								1	46		
	France			1	1	1			2									9		
	Belgium			1	1			2		6								3	23	
	Sweden											3	15	3		1			4	
Italy									1			1			3			5		
Switzerland																				
Others	9	5	14	28	5		3										14	50		
Grand Totals. . . .	793	619	543	1,955	21	72	193	54	11	8	5	26	4	1	4	2	28	84	2,384	

MARRIAGES—Religious Denominations of Contracting Parties.

Officiating Clergymen	Total Brides	DENOMINATIONS	BRIDEGROOMS																
			Presbyterians	Methodists	Anglicans	Roman Catholics	Lutherans	Baptists	Salvation Army	Mennonites	Greek Catholics	Latter Day Saints	Moravians	Evangelical Reformed	Congregationalists	Greek Independent	Others	Not Stated	Total Bridegrooms
662	480	Presbyterians.....	320	64	59	9	6	2	2	1	1	1	1	1	1	6	9	480	
590	455	Methodists.....	73	273	46	9	12	14	1	3	2	5	5	5	5	11	6	455	
377	388	Anglicans.....	56	53	248	5	4	5	1	4	4	2	2	2	2	2	6	388	
259	302	Roman Catholics..	14	8	17	231	3	2	2	2	2	1	6	2	1	4	20	302	
92	242	Lutherans.....	13	23	14	11	154	3	1	9	1	6	2	2	2	2	1	242	
157	77	Baptists.....	25	20	14	3	12	2	2	1	1	1	1	1	1	1	1	77	
1	3	Salvation Army...	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	3	
10	15	Mennonites.....	1	2	1	1	1	1	8	1	1	1	1	1	1	1	1	15	
104	169	Greek Catholics...	1	1	4	2	51	2	98	44	3	3	7	1	1	1	1	169	
43	51	Latter Day Saints	1	1	2	1	2	2	1	1	1	1	1	1	1	1	1	51	
19	9	Moravians.....	1	1	1	1	2	1	1	1	1	7	16	1	1	1	1	9	
27	24	Evangelical Ref'd	1	1	1	1	3	1	1	1	1	1	1	1	1	1	1	24	
9	25	Congregationalist	6	1	7	2	3	1	1	1	1	1	1	1	1	1	1	25	
14	20	Greek Independ't	6	7	4	1	4	1	1	1	1	1	1	1	20	1	1	20	
17	58	Others.....	6	7	4	1	4	1	1	1	1	1	1	1	1	36	5	58	
3	66	Not Stated.....	6	3	3	6	1	1	1	1	1	1	1	1	1	3	41	66	
2384	2384		522	455	417	280	200	89	3	12	110	55	13	21	21	25	69	91	2384

MEAN MARRIAGE AGE.

YEAR	MALE	FEMALE	YEAR	MALE	FEMALE
1901	28.78	22.42	1906	28.82	22.59
1902	27.10	22.88	1907	27.45	23.98
1903	28.31	22.98	1908	30.23	24.19
1904	28.53	23.41	1909	28.94	24.22
1905	28.34	23.06			

BIRTHS AND RATIO OF BIRTHS TO DEATHS.

YEAR	Births of Males to 1,000 births of Females	Ratio of Births to Deaths	YEAR	Births of Males to 1,000 Births of Females	Ratio of Births to Deaths
1901	1,081	3.55	1906	1,094	2.07
1902	1,010	2.59	1907	1,075	2.96
1903	1,056	2.95	1908	1,077	2.73
1904	1,118	3.04	1909	1,086	2.59
1905	1,059	3.11			

VII.—PROVINCIAL SEED FAIR

During the year twenty-three seed fairs were held throughout the province previous to the provincial fair. In this work the Department has the hearty co-operation of the Seed Branch of the Dominion Department of Agriculture whose representative in the province is Mr. W. C. McKillican, of Calgary. Besides assisting the various agricultural societies in competitions of standing fields of grain



JUDGING SHORTHORN CATTLE AT AN ALBERTA EXHIBITION.

the Seed Branch gave great assistance to the seed fairs. These were arranged in series and all completed before the provincial seed fair was held, the idea being to have only the best grain from the various local fairs go forward to the provincial one.

The provincial seed fair was held in Calgary in the C.M.R. Drill Hall on February 3rd, 4th and 5th. It was difficult to secure a thoroughly suitable hall and the very large increase in the number of the entries made it necessary to make use of every available space. In all there were 210 entries. The following is the prize list with the number of entries in each class:

No. of Entries	Class	1ST	2ND	3RD	4TH	5TH
24	1. Winter Wheat, Alberta Red	20	15	12	8	5
2	2. Winter Wheat, any soft variety	15	12	8	5	
13	3. Spring Wheat, Red Fife	18	14	10	6	4 ✓
16	4. Spring Wheat, any other good milling variety	18	14	10	6	4 ✓
11	5. Oats, Baumer	20	15	12	8	5
19	6. Oats, any other long or milling variety	20	15	12	8	5
12	7. Oats, any short or feed variety	18	14	10	6	4 ✓
12	8. Barley, six-rowed	15	10	5		
10	9. Barley, two-rowed	15	10	5		
2	10. Peas	12	8	5		
5	11. Flax Seed	12	8	5		
10	12. Timothy Seed	12	8	5		
6	13. Brome Grass Seed	12	8	5		
4	14. Rye Grass Seed	12	8	5		
	15. Red Clover Seed	12	8	5		
	16. Alsike Clover Seed	12	8	5		
	17. Alfalfa	12	8	5		

The Judging Competitions.

9	18. Judging Wheat	10	8	5	3
9	19. Judging Oats	10	8	5	3
8	20. Identification of Weed Seeds	10	8	5	3

In addition to the above there were four special prizes consisting of silver trophies valued at \$100 each. The Department was fortunate in securing three others beside the trophy donated by Messrs. Bulman Brothers, of Winnipeg, the previous year, so that there were four excellent trophies, all of which remain in competition until won by one exhibitor three times. The following is a list of the silver trophies:

(Class 21 (11 entries) —Best five bushels of Spring Wheat, Silver Trophy valued at \$100, donated by the publishers of "Farm Crops Magazine," Winnipeg, and known as the "Farm Crops Cup." In addition to the trophy the publishers offer a cash prize of \$50 to the winner, \$30 as a second and \$20 as a third prize. Each winner's name will be engraved on the trophy. It was won in 1908 by Mr. J. G. Vosburgh of Granum.

(Class 22 (8 entries).—Best five bushels of Alberta Red Wheat, Silver Trophy valued at \$100, donated by the Alberta Pacific Elevator Company of Calgary.

(Class 23 (12 entries).—Best five bushels of Milling Oats, Silver Trophy valued at \$100, donated by the Calgary and Strathcona branches of the Brackman-Ker Milling Company.

(Class 24 (7 entries).—Best five bushels of Six-rowed Barley, Silver Trophy valued at \$100, donated by the Calgary Brewing and Malting Company of Calgary.

Prizes to the amount of \$288 were offered by the Canadian Seed Growers' Association to any member of the said association exhibiting in the classes set for that purpose. The prizes offered by this association were as follows:

	1ST	2ND	3RD	4TH
Class 1.—Spring Wheat, Red Fife, five complete hand selected plants with roots	\$5	\$4	\$3	\$2
Class 2.—Spring Wheat, any other variety, five complete hand selected plants with roots	5	4	3	2
Class 3.—Fall Wheat, Turkey Red, five complete hand selected plants with roots	5	4	3	2
Class 4.—Fall Wheat, any other variety, selections as above,	5	4	3	2
Class 5.—Oats, any white variety, selections as above	5	4	3	2
Class 6.—Barley, any variety, selections as above	5	4	3	2
Class 7.—Wheat, Oats and Barley, selections from Mother Crops by new beginners only, five average plants with roots attached:				
Sec. 1.—Red Fife Wheat	3	2	1	
Sec. 2.—Any other variety Spring Wheat	3	2	1	
Sec. 3.—Turkey Red Wheat	3	2	1	
Sec. 4.—Any other variety Fall Wheat	3	2	1	
Sec. 5.—Oats, any white variety	3	2	1	
Sec. 6.—Barley, any variety	3	2	1	

PRIZE WINNERS, 1909.

The following is a complete list of the prize winners:

Class 1, Winter Wheat, Alberta Red—1st, J. Dawson, Mountain View, 2nd, S. M. Woolf, Cardston, 3rd, Albert Herr, De Winton; 4th, A. R. Bennett, Magrath; 5th, Brimhall Bros., Raymond.

Class 2, Winter Wheat, any soft variety.—1st, Elmer C. Wait, Didsbury; 4th, Walter Ackroyd, Magrath.

Class 3, Spring Wheat, Red Fife.—1st, John C. Buckley, Gleichen; 2nd, W. J. Glass, Macleod; 3rd, J. G. Vosburgh, Granum; 4th, J. Horner, Macleod; 5th, P. A. Adams, Macleod.

Class 4, Spring Wheat, any other Milling Variety.—1st, Alec. S. Blackwood, De Winton; 2nd, Lloydminster Agricultural Society, Lloydminster; 3rd, John V. Thomson, Gladys; 4th, David Mackintosh, Granum; 5th, Antoine Bruchet, Lethbridge.

Class 5, Banner Oats.—1st, Ernest E. Swift, Magin; 2nd, Brimhall Bros., Raymond; 3rd, Alec. S. Blackwood, De Winton; 4th, Chas. Forekel, Okotoks; 5th, G. W. Hand, Lacombe.

Class 6, Oats, any other Milling Variety.—1st, Lloydminster Agricultural Society, Lloydminster; 2nd, Wm. H. Poole, Curlew; 3rd, James Black, Bowden; 4th, A. Sheaser, Stettler; 5th, D. C. Johnston, Spring Bank.

Class 7, Oats, any Short or Feed Variety.—1st, Albert Loughheed, Bowden; 2nd, Ernest A. Reed, De Winton; 3rd, Milton Williams, Calgary; 4th, Chas. Forekel; Okotoks; 5th, A. L. Whitten, Chigwell.

Class 8, Barley, Six-rowed.—1st, A. Von Mieleeki, Calgary; 2nd, G. P. Liesemer, Didsbury; 3rd, A. D. Shore, Gleichen.

Class 9, Barley, Two-rowed.—1st, Fred H. Herbert, Strathcona; 2nd, J. G. Vosburgh, Granum; 3rd, William Malins, Alix.

Class 10, Peas.—1st, J. G. Vosburgh, Granum; 2nd, O. Kerstein, Gleichen.

Class 11, Flax Seed.—1st, S. S. Brogden, Midnapore; 2nd, Pitchford & Wooding, Midnapore; 3rd, W. F. Ferguson, Gleichen.

Class 12, Timothy Seed.—1st, Geo. Morton, Innisfail; 2nd, Henry Jamieson, Red Deer; 3rd, Joseph C. Peterson, Gleichen.

Class 13, Brome Grass Seed.—1st, Arthur Perry, Cardston; 2nd, Robert M. Gibson, Lacombe; 3rd, J. H. Connell, Gladys.

Class 14, Rye Grass Seed.—1st, S. E. Howard, Innisfail; 2nd, C. A. Higgs, Red Deer; 3rd, Thomas Henderson, Lacombe.

SPECIAL PRIZES.

Winners in Cup Classes:

Class 21. Best five bushels Spring Wheat, Farm Crops Trophy.—1st, John C. Buckley, Gleichen; 2nd, W. J. Glass, Macleod; 3rd, J. G. Vosburgh, Granum.

Class 22. Best five bushels Alberta Red Wheat, Alberta Pacific Elevator Company's Trophy.—A. R. Bennett, Magrath.

Class 23. Best five bushels Milling Oats, Brackman-Ker Milling Co.'s Trophy.—W. H. Poole, Curlew.

Class 24. Best five bushels Six-rowed Barley, Calgary Brewing & Malting Company's Trophy.—G. P. Liesemer, Didsbury.

JUDGING COMPETITIONS.

These competitions were held on the second day of the fair and were open to all farmers and farmers' sons in the province. The competitors were expected to judge several varieties of wheat and oats and to identify several samples of weed seeds. There were nine young men entered in this contest.

Class 18, Judging Wheat.—1st, J. J. Richards, Red Deer; 2nd, A. R. Gibson, 3rd, A. Sherret, Lethbridge; 4th, James Williamson, Calgary.

Class 19, Judging Oats.—1st, A. Loughheed, Bowden; 2nd, J. J. Richards, Red Deer; 3rd, James Williamson, Calgary, 4th, A. Sherret, Lethbridge.

Class 20, Identification of Weed Seeds.—1st, A. R. Gibson, Calgary, 2nd, A. Loughheed, Bowden; 3rd, J. Horner, Macleod; 4th, M. P. Matheson, Granum.

PUBLIC MEETINGS.

Arrangements had been made to hold a number of public meetings in connection with the seed fair, and for that purpose Professor H. L. Bolley of the North Dakota Agricultural College at Fargo and Mr. A. Mitchell of the Forestry Branch of the Dominion Government at Indian Head, Saskatchewan, had been secured. Unfortunately a convention to discuss the western route for grain was called to meet at the same time. As this subject was of importance and aroused great interest it was deemed advisable to limit the number of meetings to two. These were held Thursday evening and Friday morning, February 4th and 5th. The following was the programme:

Thursday, February 4th.

- 8 p.m.—Address of Welcome. Mayor Jamieson.
 Address: "Agricultural Progress in Alberta." Geo. Harcourt, Deputy Minister of Agriculture, Edmonton.
 Address: "Plant Diseases and Weeds." Prof. H. L. Bolley, North Dakota Agricultural College, Fargo, North Dakota.

Friday, February 5th.

- 9.30 a.m.—Address: "Dry Farming." A. Mitchell, Indian Head.
 Address: "Cultivation of the Soil for Production of Wheat." W. F. Stevens, Clover Bar.
 Address: "Our Duty to the Land." Prof. H. L. Bolley, North Dakota Agricultural College, Fargo, North Dakota.

On the whole the fair was pronounced a most excellent one and marked a great advance upon that of the previous year. It was overshadowed by the convention and did not receive the notice from the general public that its importance or the high quality of the grain present merited.

VIII.—MISCELLANEOUS

Under this heading is grouped comments on a number of subjects of more or less importance but under the separate heads there is not at present sufficient information at hand to warrant more than brief mention.

IRRIGATION.

It may not be generally known that the province possesses one of the largest, if not the very largest, irrigation schemes on the continent. Such is the case, however, and the Canadian Pacific Railway deserve credit for the way with which they have pushed along the gigantic undertaking east of Calgary. Besides this scheme there is the ditch of the Alberta Railway and Irrigation Company at Lethbridge. This is the older ditch of the two mentioned; but these are not the first ones built in the province, there having been a number of small ones built at a number of places years ago during the dry seasons. The advent of a number of wet seasons put most of these smaller ditches out of business. The wet seasons also caused many settlers along the Lethbridge ditch to abandon their water rights, the reason given for this being that there was sufficient rainfall to grow excellent crops if the moisture which did fall was properly taken care of by intelligent cultivation. Acting along these lines enormous yields have been obtained. Should, however, a series of dry years return, and as these years come in cycles they are bound to return, it is to be feared that many of these men will wish they had their water rights again. Another large irrigation undertaking is that of the Southern Alberta Land Company, whose ditch begins on the Bow River west of Gleichen, runs across the corner of the Blackfoot Indian Reserve, swings south through a large tract of country, and finally reaches the company's lands near the junction of the Bow with the Belly River. It is carried a distance of 125 miles before it reaches the company's lands. It is capable, however, of serving a large district of private lands as well and eventually will serve a large area.

At present but little is known about the actual practical working out of the application of water on Alberta land. In order to advance and accumulate knowledge on these lines an organization was effected in 1907 known as the Canada Irrigation Association. It is inter-provincial in character, being held one year in Alberta and the next in British Columbia. The third annual convention of the Association was held in Lethbridge in August, 1909. The province was officially represented by His Honour Lieutenant Governor Bulyea, Premier Rutherford, and the writer. Excellent papers were read and some of the discussions were most interesting.

There can be no question that those districts in which irrigation can be followed have a great opportunity lying before them. Such a supply makes the farmer practically independent of the weather. It is especially valuable for forage crops, alfalfa, and lends itself to intensive farming. Its successful use for grain crops has yet to be demonstrated. Not that large yields cannot be obtained by the use of water, but the quality is likely to suffer and the problem as the writer sees it is how to apply the water and yet continue to grow grain possessing that large content of gluten which has made our wheat the superior of any grown in the world. It appears to the writer that for successful grain growing the water must be applied in the late fall, the ground thoroughly saturated to a depth of 10 or 12 feet. Spring cultivation can then proceed under ordinary circumstances and the crop ripen to the best advantage. There is a large and most interesting problem to work out along these lines and the work of this association will be followed with great interest.

DRY FARMING.

In all districts served by an irrigation ditch there is bound to be land on to which the water cannot be carried. Farming under such conditions came to be called "dry farming" because "above the ditch." Where irrigation is necessary the rainfall is always near the margin of the amount required for successful growth or there is liable to be an irregular precipitation of it. Methods of cultivation have been devised for these districts looking to storing in the soil all the rain that falls and retaining it there by proper tillage. The ideas underlying these methods of cultivation are applicable to other lands and the use of the term "dry farming" has been widened in consequence to apply to the general methods of soil tillage in those districts whose annual precipitation is below 20 inches or is irregular in occurrence. The fact is that the principles of "dry farming" are so sound and so applicable to all districts that a strong and persistent effort is being made to change the name. It is true it is a misnomer but as yet no short, distinctive name equally appropriate has been suggested. The term is now generally understood, and it is so striking that those who do not know enquire and are enlightened. Such would not be the case were the name "scientific soil culture" used. Such a name would be applicable the world over and not being suggestive would lose all force. The term "dry farming" while being applicable generally, is also specific as it relates to a distinct system of cultivation for a special purpose.

The holding of the third Dry Farming Congress at Cheyenne, Wyoming, in February, 1909, gave the Department an opportunity to send a delegate in the person of Mr. D. W. Warner, a well known farmer of the Edmonton district. The province was also represented by Mr. W. H. Fairfield, Superintendent of the Experimental Farm at Lethbridge. The reports of these two men were such that the Department took greater interest in the Fourth Congress which was held in Billings, Montana, on October 26th to 28th, 1909, the date being changed from late winter to early fall in order to allow of a better exhibit being made in connection with the exhibition of the products of dry land farming.

At the Cheyenne convention the writer was elected vice-president representing Alberta, and later acted as corresponding secretary for the province. Several circular letters were issued and quite a large number of members from the province obtained. The Department promised assistance in getting up an exhibit of the products of Southern Alberta and Mr. Thomas Woolford of Cardston was chosen to get together an exhibit. Under his auspices the Boards of Trade in Cardston, Lethbridge, Taber and Macleod, made district exhibits. That of Lethbridge was unique, being a large bin of wheat, which attracted great attention, and easily won first place as the finest display, as well as the highest quality of winter wheat. Macleod won a worthy third place. The exhibit made by Alberta attracted great attention and won second place for the best display by state or province. The province was represented by Thomas H. Woolford of Cardston, D. W. Warner of Edmonton, and the writer, as delegates. Messrs. Fairfield, Woolford, Warner and the writer had places upon the programme. Besides gathering information on the principles of dry farming, the province received a great deal of advertising. The Lethbridge Board of Trade chartered a special sleeping car for the Alberta delegation, which in all numbered some 19 persons. The Deputy Minister was given the opportunity, with

a free use of a hall and electric lantern, to display a series of lantern slides depicting Alberta scenes, together with a talk upon the advantages offered by the province as a field for investment and settlement.

CORRESPONDENCE.

The volume of correspondence has grown rapidly during the year, there having been received 54,063 communications as compared with 33,763 in 1908, 22,657 in 1907 and 12,923 in 1906. The total number of letters sent out during the year was 91,719 and 56,666 bulletins and reports. In 1908 there were 85,431 letters sent out and 23,173 bulletins.

CHANGES IN THE STAFF.

During the year there have been a number of changes in the staff of the Department and in this connection I wish to state the regret with which the staff of the Department received the word that the Hon. W. T. Finlay was compelled to resign his position as head of the Department. He took charge of the Department when the staff consisted of only three members and under his direction it was fully organized in eleven different branches and with a staff increased to over 50 members.

I also wish to mention the loss the Department sustained in the death of the late T. B. R. Henderson, who for the last two seasons had filled the position of Chief Weed Inspector. His early demise is regretted by all of the staff as he had in his intercourse with them greatly endeared himself.

In regard to your own appointment, Sir, as the head of the Department, on behalf of the staff I wish to congratulate you and to convey to you their loyalty and willingness to assist you in every way you think best to make the work of the Department as successful as it ought to be.

In conclusion I wish to state that the thanks of the Department are due to the press of the province for their readiness to publish any information furnished by the Department for the public good. Thanks are also due to the railway companies for their willingness to assist, wherever it lay in their power, the work the Department had in hand. Indeed it is a great pleasure to state that in whatever direction the Department looked for assistance in any project which it had under way, it always has been accorded hearty support and good wishes.

I have the honour to be, Sir,

Your obedient servant,

GEO. HARCOURT,
Deputy Minister of Agriculture.

2.—REPORT OF THE DAIRY COMMISSIONER.

SIR,—I have the honour to submit herewith the fourth annual report of the Dairy Commissioner's Branch for the year ending December 31, 1909.

I.—GENERAL.

From a climatic point of view the first half of the past summer season was very favorable to dairy operations. Frequent showers and warm weather kept the pastures in fine growing condition. In fact, up to the middle of July it looked as though the dairy production for the season would reach, if not exceed, that of 1906, the largest in the history of the province. After the latter part of July, however, the rainfall became very light indeed and, as a consequence, the bright warm weather dried up the pastures much earlier than usual causing a heavy shrinkage in the milk yield week by week.

The farmers who had the foresight and good judgment to provide green, succulent feed to help out their pastures kept their cows in good flow of milk and reaped their reward in the higher prices which they received for their butter during the latter part of the season.

On the other hand, the majority still depend almost entirely upon the native pastures for the sustenance of their dairy cows during the summer, and have to be satisfied with not only a shorter milking season but also with a smaller revenue from their dairy because the great bulk of their production is of necessity put upon the market when prices are lowest.

Regarding the volume of the dairy production of the province, while complete statistics are not available we shall confine ourselves to the discussion of organized or factory dairying of which most of the returns are now in hand.

During the past season eleven cheese factories and fifty-four creameries were operated in the province, twenty-one of the latter by the provincial department of agriculture and popularly known as Government Creameries. It is estimated that the cheese output will aggregate a selling value of about \$28,000, a slight increase over 1908. The butter production of the creameries operated during the past year will reach a total of 2,550,000 pounds for the twelve months and represent a selling value of \$600,000, as against 2,100,000 pounds manufactured in fifty-one creameries during the corresponding period of 1908, worth \$526,800; and 1,500,000 made in forty-five creameries and worth \$350,000 for the same period of 1907. In other words, the butter output of the Alberta creameries increased seventy per cent. in two years.

The creameries which are operated by the Government were established on the co-operative principle by associations of farmers and are operated in their behalf. Their butter output represents forty per cent. of the creamery production of the province.

The great bulk of the butter made in the creameries is disposed of in British Columbia markets, and upwards of 400,000 pounds are annually consumed in the Yukon, where Alberta creamery butter enjoys a splendid reputation for its uniformly fine keeping qualities. Having due regard to quality there is no doubt that we shall find a market in the West for our surplus butter and cheese production for years to come.

Aside from the increased production just outlined the outstanding features of the past year's dairy development are: (1) a greatly increased winter production, and (2) a growing demand for a better class of dairy stock.

With regard to the first point, the butter output of the creameries operated during the winter of 1908-09 was more than a hundred per cent. greater than that for the winter of 1907-08, showing that there is a tendency in favour of all year dairying. This tendency has been encouraged in every way and will lead to a rational and profitable development of that industry.

Secondly, now that the factory system of dairying has developed, good cash markets for milk and cream it is but natural that the farmers who take up that line of business should desire to make the best possible use of their time and opportunities by paying closer attention to the milking qualities of their dairy animals and this is bringing about a demand for something better than the so called dual purpose animals. Generally speaking, they are of a beef type and fall short in their dairy performance.

The demand for better dairy stock having become evident, several local breeders of dairy cattle during the past year shipped into the province from Eastern Canada a number of carloads of Ayrshires, Jerseys and Holsteins which they afterwards disposed of by auction or by private sale at comparatively good figures. Now that this movement has commenced it would appear that we have here a promising market for not only the local breeders of dairy cattle but also for the breeders in other parts of Canada who may be looking for an outlet for their surplus stock.

In this connection I may add that the provincial government set aside this year a sum of \$1,000 to be used for the purpose of assisting farmers to bring in pure bred dairy cattle from the eastern provinces. The purchaser made his own purchase by correspondence or otherwise and arranged his own terms for payment. When a sufficient number of animals to make up a car have been reported the Department of Agriculture undertakes to collect and deliver them at the nearest railway station of the purchaser at the uniform rate of \$5.00 per head.

II.—INDIVIDUALLY OPERATED CREAMERIES.

In the following list is given the names and locations of the individually operated creameries, also the names of their proprietors or secretaries as the case may be.

CREAMERY	POST OFFICE ADDRESS	PROPRIETORS
1. Pine Lake	Pine Lake	Trimble & Edwards.
2. Cloverhill	Didsbury	F. N. Ballard.
3. Neapolis	Neapolis	H. H. Reimer.
4. White Swan	Bowden	Robt. McCue.
5. Wild Rose	Ponoka	A. Barrett.
6. Knee Hill	Sunny Slope	R. Karnagel.
7. Trimble	Red Deer	H. W. Trimble.
8. Golden Rod	Valley City	T. A. Brereton.
9. Mayton	Mayton	Wm. L. Fischer.
10. Lakeside	Leduc	The Leduc Produce Co
11. Golden Rose	Camrose	The J. Harris Co.
12. Sedgewick Creamery Co.	Sedgewick	Ira Joy.
13. Highland Park	Highland Park	Hansen & Johnstone.
14. Initial	Harmattan	O. O. Taylor.
15. Berlin	Didsbury	Peter Friesen.

CREAMERY	POST OFFICE ADDRESS	PROPRIETORS
16. Three Hills.	Three Hills	Arthur W. Pratt.
17. Bentley . .	Bentley	J. F. Millar.
18. Parisian . .	Prochu Valley	H. de Reinach-Werth.
19. Springfield	Sterlingville	Davies & Hunter.
20. Rosebud	Carstairs . .	W. E. Tidball.
21. Red Lodge	Red Lodge	Colin Thompson.
22. McCrohan & Co.	Calgary	McCrohan & Co.
23. Pincher Creek Creamery	Pincher Creek	McKerricker Bros.
24. Ivy Leaf	Lewisville	I. G. & M. Gibbon.
25. Lily Bank	Vegreville	Warwick & Grove.
26. The Carbon	Carbon . .	Blois & Davies.
27. Edmonton City Dairy	Edmonton . .	Edm'n City Dairy, Ltd.
28. The O.K. Creamery	Morningside	T. Smith, Secretary.
29. Beaver Lake Creamery Ass.	Ryley	C. M. Nelson, Secretary.
30. Bawlf Co-operative	Bawlf	K. O. Eggen, Secretary.
31. Blue Bell	Mannville.	Warwick & Grove.
32. P. Burns & Co.	Calgary	P. Burns & Co.

III.—CHEESE FACTORIES.

The names, location and names of the proprietors of the cheese factories operating in Alberta during the summer of 1909 are given herewith.

CHEESE FACTORIES IN ALBERTA, 1909.

CHEESE FACTORY	POST OFFICE ADDRESS	PROPRIETOR
1. Erskine	Erskine	Hugh McDonald.
2. Spring Bank	Spring Bank	W. H. Shoup.
3. Bentley	Bentley	J. F. Millar.
4. Eekville	Burnt Lake	F. B. Millar.
5. Burnt Lake	Burnt Lake.	T. B. Millar.
6. Westbrook	Cochrane	J. T. Boucher.
7. Kimsamo	Burnt Lake	F. B. Millar.
8. Cremona	Cremona	Western Dairy & Produce Co., Ltd.
9. White Swan	Bowden	R. McCue.
10. Sturgeon River	Lamoureux	Nap. Audclair.
11. Big Bend	Innisfail	T. M. Copeland.

IV.—CREAMERIES OPERATED BY THE GOVERNMENT.

Twenty-one creameries were operated by the Department during the season of 1909 on behalf of the Farmers' Co-operative Associations owning them. Table I presents a record of the patronage, cream supply, butter output, average price and gross value of the product of the several creameries working under Provincial Government management since May 1, 1906. Particulars of the business of the creameries which commenced operations prior to that date will be found in Report for 1908.

TABLE I.—SUMMARY OF BUSINESS DONE AT GOVERNMENT CREAMERIES, IN ALBERTA, 1906 TO 1909, INCLUSIVE.

NAME OF STATION	Season	No. of Patrons	Inches of Cream Supplied	Lbs. of Cream Supplied	Lbs. of Butter manufactured	Average price realized at Creamery per lb.	Manufacturing Charge per lb.	Number of days in operation	Gross value of product
Calgary	1906	54	24,768 8	16,136	27,169	(cents 21 647	(cents 4	148	\$5,881 38
	1907	14			5,028	23 715	4	90	1,192 42
Innisfail	1906	233	144,736 8		186,486	21 589	4	187	40,261 03
	1906-7	173	21,333 9		35,380	27 848	4	174	9,852 65
	1907	179	17,553 2		119,834	23 468	3 989	189	28,123 01
	1907-8	97		305,116 2	22,191	30 322	4	181	6,728 81
	1908	157		78,626	115,056	25 674	3 253	168	29,539 38
	1908-9	164		350,405	48,517	25 947	4	196	12,589 17
Red Deer	1909	218		155,646	155,776	21 051	3 3562	168	37,465 71
	1906	161	83,088 0		100,036	21 315	4	187	21,323 57
	1906-7	83	17,154 9		20,358	27 882	4	124	5,676 23
	1907	83	12,670 0		53,224	23 481	4	189	12,497 95
	1907-8	69		110,427 7	14,931	30 123	4	181	4,497 72
	1908	125		51,866 5	87,585	25 539	3 394	168	22,368 06
Wetaskiwin	1908-9	142		277,874	42,620	25 813	4	196	11,001 57
	1909	148		145,231	97,591	23 9892	3 9866	168	23,411 43
	1906	100	56,579 7		72,021	21 073	4	195	15,176 95
	1907	38	1,518 3		17,194	22 598	4	189	3,885 64
Tindastoll	1908	32		47,116	20,121	21 988	4	146	5,028 61
	1909	37		64,911	17,133	23 763	4	168	4,071 33
				59,474					
	1906	106	68,523 5		89,471	21 326	4	187	19,080 85
Tindastoll	1906-7	86	17,477 8		20,436	27 882	4	174	5,654 14
	1907	106	17,104 6		82,322	23 227	3 728	189	19,121 02
	1907-8	75		168,501 3	14,907	30 057	4	181	4,480 71
	1908	101		49,244	90,951	25 478	3 377	168	23,172 60
				251,740 4					

Tindastoll	1908-9 1909	102 120		101,300 277,531 5	32,467 99,110	25 626 23 9617	4 3 9522	196 168	8,320 03 23,748 47
Olds	1906	117	80,428 1		105,129	21 376	4	187	22,472 11
	1906-7	63	14,150 3		16,262	27 667	4	174	4,531 88
	1907	114	9,334 3	186 071	71,678	23 279	3 77	189	16,686 13
	1907-8	48		35,685	9,621	30 118	4	181	2,897 69
	1908	79		190,450	63,656	35 518	3 763	169	16,243 94
Blackfalds	1908-9	74		39,588	12,100	25 774	1	145	3,118 72
	1909	102		213,920	69,504	24 0704	4	168	16,729 90
	1906	153	67,987 2		90,285	21 12	4	187	19,068 65
	1906-7	53	9,739 8		11,300	27 602	4	174	3,119 06
	1907	83	5,331 4	108,237 05	40,345	23 19	4	189	9,356 22
Lacombe	1907-8	30		22,657 4	6,836	30 021	4	181	2,052 25
	1908	79		137,185 7	45,728	25 493	4	168	11,657 49
	1908-9	64		44,669 9	13,095	25 889	4	196	3,366 99
	1909	44		102,707 2	32,797	23 8399	4 1163	168	7,818 79
	1906	108	48,569 1		63,729	20 964	4	187	13,352 51
Reaver Hills	1907	19	1,198 5	26,293 55	12,465	22 705	4	134	2,830 28
	1908	15		13,586	4,970	23 97	4	62	1,191 32
	1906	21	4,731 1		6,482	20 208	4	67	1,309 90
Earlville	1906	47	12,665 8		14,090	20 788	4	132	2,929 18
	1906	141	71,876 0		90,768	21 219	4	216	19,260 13
	1907	65	5,974 9	81 876 5	34,129	22 949	3 988	181	7,901 31
Exarts	1908	69		125,690 3	38,714	25 492	3 988	188	9,869 09
	1908-9	74		18,189 6	5,392	24 746	4	47	1,354 33
	1909	86		132,393	40,916	23 7991	4	168	9,737 65
Evarts	1906	79	35,210 8		37,292	21 126	4	188	7,878 48
	1907	59	4,423 1	60,683 1	23,390	22 819	4	186	5,337 51
	1907-8	19		13,617	3,593	29 974	4	181	1,076 96
	1908	49		84,467 2	26,012	25 418	4	168	6,611 80
	1908-9	32		27,308 3	7,616	25 567	4	196	1,947 19
	1909	44		65,201 3	20,072	23 8879	4	168	4,794 79

TABLE I.—SUMMARY OF BUSINESS DONE AT GOVERNMENT CREAMERIES IN ALBERTA, 1906 TO 1909, INCLUSIVE.—Continued.

NAME OF STATION	Season	No. of Patrons	Inches of Cream Supplied	Lbs. of Cream Supplied	Lbs. of Butter manufactured	Average price realized at creamery per lb.	Manufacturing Charge per lb.	Number of days in operation	Gross value of product
Ferry Bank	1906	92	43,255 0		54,999	21 08½	Cents	173	11,594.57
	1906-7	60	6,227 2		7,190	27 6½	4	109	1,986.61
	1907	89	16,979 7	96,371	53,430	23 17	3 809	188	12,380 11
	1907-8	31		5,568	1,666	20 0	4	26	499.44
	1908	80		130,776 5	44,554	25 4½	4	168	11,332.34
Martins	1908-9	55		14,411 5	4,622	25 807	4	63	1,195.61
	1909	70		78,133	27,562	23 77¼	4	168	6,552 17
	1906	82		95,959	31,151		5	153	6,017.75
	1907	23		11,494	3,966	21 52	4	92	853.49
	1906	58	20,650 3	80,158 9	24,274	21 798	4	117	5,291.47
Pine Creek (Lakeview)	1907	60	7,487 2	1,270	31,400	23 3404	4	195	7,329 05
	1907-8	18		92,454 1	317	30 22	4	13	95 80
	1908	62		160,961	26,938	25 611	4	158	6,899 17
	1909	92			47,152	24 0746	4	181	11,358 88
	1906	63	15,752 4		20,506	21 184	4	126	4,344 01
Rosenroll	1906 7	8	759 3		848	27 421	4	56	232 53
	1907	40	1,014 8	34,022 4	11,722	22 41	4	134	2,626.92
	1908	47		88,316	26,364	25 319	4	168	6,725 79
	1908-9	34		8,165 5	2,302	24 826	4	54	622 41
	1909	56		72,038	21,155	23 6147	4	168	5,002 04
Stettler	1906	76	23,726 1		29,439	21 088	4	146	6,208.11
	1907	57	1,402 7	67,879 9	23,605	22 71	4	172	5,360 69

Stettler	{ 1908	44		49,694 9	17,113	25 192	4	153	4,311 04
	{ 1909	42		25,244 1	8,729	23 6603	4	111	2,065 31
Stony Plain	{ 1906	64	6,122 8		7,029	21 46	4	64	1,508 46
	{ 1907	35	2,201.7		2,756	22 053	4	48	607 79
Content	{ 1907	60	2,598.1	71,423 3	26,725	22 942	4	174	6,131 29
	{ 1908	81		128,697	42,196	25 384	3 581	188	10,711 03
	{ 1908-9	86		49,870	13,884	25 7	4	196	3,568 42
	{ 1909	79		90,583	29,189	23 7925	4	168	6,944 80
Crossfield	{ 1907	24		15,804 5	4,292	22 1645	4	69	951 30
Rimbey	{ 1907	39		17,998	5,938	22 8583	4	61	1,361 08
	{ 1908	51		61,893	20,148	25 327	4	160	5,103 02
	{ 1908-9	18		2,616	864	27 370	4	20	236 47
	{ 1909	46		54,483	18,304	23 88	4	168	4,371 01
Lamerton	{ 1907	60		72,304 85	21,917	22 6593	4	152	4,966 26
	{ 1908	49		52,355 9	19,303	25 321	4	152	4,877 69
	{ 1909	49		55,113 4	21,022	23 5931	4	168	4,960 17
Spring Lake	{ 1907	24		23,045	7,528	23 797	4	94	1,791.51
	{ 1908	52		95,797 5	32,480	25 177	3 792	188	8,177 61
	{ 1908-9	39		29,671	9,610	24 935	4	196	2,396.26
	{ 1909	69		108,675	37,310	23 7424	4	168	8,858.30
Vegreville...	{ 1908	29		18,098	5,085	23 967	4	45	1,218 75
Bonnie Glen	{ 1908	27		20,016	5,949	25 02	4	111	1,488 46
	{ 1909	23		8,530	2,409	23 1225	4	33	559.43
Vermilion	{ 1908	77		67,876 3	20,200	25 213	4	105	5,098 02
	{ 1908-9	39		7,038	1,645	27 625	4	34	454 43
	{ 1909	29	....	17,328 5	4,599	23 1433	4	90	1,064 36

TABLE I.—SUMMARY OF BUSINESS DONE AT GOVERNMENT CREAMERIES IN ALBERTA, 1906 TO 1909, INCLUSIVE—*Continued*

NAME OF STATION	Season	No. of Patrons	Inches of Cream Supplied	Lbs. of Cream Supplied	Lbs. of Butter Manufactured	Average price realized at creamery per lb.	Manufacturing Charge per lb.	Number of days in operation	Gross value of product
Conjuring Creek...	1908	56		75,189 4	22,915	Cents 25 228	Cents 4	160	5,781 03
	1908-9	47		10,297 5	2,696	23 544	4	48	634 76
	1909	76		85,581 9	27,220	23 7712	4	168	6,470 52
Viking.	1909	62		47,687	17,498	24 4818	4	84	4,283 82
Daysland	1909	62		64,614 5	23,384	23 8406	4	132	5,574 89

Table II presents a summary of the foregoing by summer and winter seasons, respectively.

TABLE II.—TOTALS of the Foregoing by Seasons.

SEASON	No. of Patrons	Inches of Cream Supplied	Lbs. of Cream Supplied	Lbs. of Butter manufactured	Average price realized at Creamery per lb.	Gross Value of Product
					cents	
1906	1,755	808,311 5	95,959	1,050,356	21 227	\$222,959 11
1906 7	526	96,843 2		111,774	27 784	31,053. 10
1907	1,268	107,292 5	1,600,986 71	653,208	23 161	151,291 78
1907-8	387		258,533 9	74,062	30 149	22,329.38
1908	1,370		2,377,471.2	776,241	25 432	197,411.24
1908 9	970		653,996 8	197,545	25 708	50,786.43
1909	1,551		2,504,361 6	818,462	23 9282	195,843.77
		1,012,447 2	7,491,312 21	3,681,648		\$871,674 81

Table III deals with the summer season's business only. It may be mentioned here that the periods referred to in the two columns to the right were made up as follows: 1st, from the beginning of the summer season to August 16th. 2nd, from August 16th to the end of the season.

The butter output of the government operated creameries is being marketed largely in British Columbia and, through the jobbing trade at Vancouver, in the Yukon Territory as well. Comparatively little is sold for consumption in this province, the market here being supplied largely by the product of farm dairies and of individual creameries.

TABLE III.—SUMMARY OF THE BUSINESS DONE for the Summer Season, 1909, at the Provincial Government Creameries in Alberta.

CREAMERY AT	No. of Patrons	Butter Manufactured	Value at Creamery	Av'ge price at Creamery for sea'n	Av'ge prices by pd's	
					1st Period	2nd Period
		pounds		cents		
Olds	102	69,504	\$ 16,729 90	24 074	23.3503	25 8307
Innisfail	218	155,776	37,465 71	24 051	23 3032	25 995
Tindastoll	120	99,110	23,748 47	23 9617	23 2974	25.7966
Red Deer	148	97,591	23,411 43	23 9892	23 2422	25 8751
Evarts	44	20,072	4,794 79	23 8879	23 2307	25.8807
Blackfalds	44	32,797	7,818 79	23 8399	23 2024	25 5255
Content	79	29,189	6,944 80	23 7925	23 0889	25 69
Earlville	86	40,916	9,737 65	23 7991	23 1595	25 6807
Ferry Bank	70	27,562	6,552 17	23 7724	23 1519	26.1849
Wetaskiwin	37	17,133	4,071 33	23 763	23 1047	25 3951
Rosenroll	56	21,155	5,002 04	23 6447	23 1062	25 9813
Viking	62	17,498	4,283 82	24 4818	22 9673	25.7576
Bonnie Glen.	23	2,409	559.43	23 1225	23 1225	.....
Vermilion	29	4,599	1,064 36	23 1443	23 1443	
Stettler	42	8,729	2,065 31	23 6603	23 1033	25.6071
Daysland	62	23,384	5,574 89	23 8406	23 0739	25 6849
Lakeview	92	47,182	11,358 88	24 0746	23 2882	26 4239
Conjuring Creek.	76	27,220	6,470 52	23 7712	23 1152	25 9278
Rimbey	46	18,304	4,371 01	23 88	23 1552	26 0163
Lamerton	49	21,022	4,960 17	23 5951	23 1509	25 7915
Spring Lake	69	37,310	8,858 30	23 7424	23 018	25 7398
Totals & Averages	1,554	818,462	\$195,843 77	23 9282	23 2203	25 8711

The creamery at Lacombe was not reopened, chiefly owing to the fact that other creameries had been established in the districts from which the bulk of its original cream supply had been drawn. Besides, the growth of the population of the town itself increased to a great extent the demand for fresh milk and other dairy products from the immediate neighbourhood.

The Vegreville creamery association disposed of its creamery plant to a local firm who is now operating it in connection with its produce business.

New co-operative creameries were established during the year at Viking and Daysland and placed under government management by the respective associations.

V. CONVENTION AT RED DEER.

The annual convention of delegates from the associations whose creameries were operated by the Government was held at Red Deer on April 13th and 14th, 1909.

The creamery associations with the exception of Vegreville, Stettler, Lamerton and Spring Lake were represented by the following delegates, namely:

Olds, by R. Hunt and Tom L. Buckton.
 Innisfail, by E. J. Fream and John Duncan.
 Tindastoll, by D. Morkeberg and B. Bjornson.
 Red Deer, by E. Carswell and C. J. B. Ward.
 Evarts, by S. I. Smith.
 Blackfalds, by J. Barron and H. J. Bailey.
 Lacombe, by Col. J. J. Gregory and D. C. Gourlay.
 Content, by A. J. Creighton and Edwin Allison.
 Earlville, by A. C. Hare and W. W. Batson.
 Ferry Bank, by E. R. Olmstead and John Hoar.
 Wetaskiwin, by J. F. Steinacker and B. Hilgartner.
 Rosenroll, by E. L. Langsten.
 Bonnie Glen, by Hans Froening and Jas. W. Dotterer.
 Vermilion, by J. G. Arthur and E. Covey.
 Lakeview, by D. Cameron and J. M. Meyers.
 Conjuring Creek, by J. A. Sangster.
 Rimbey, by John H. Beeley and T. A. Iddings.

The Department of Agriculture was represented by the Hon. W. T. Finlay, Minister of Agriculture; George Harcourt, Deputy Minister; W. F. Stevens, Live Stock Commissioner; the Dairy Commissioner and instructors.

At the opening session of the convention, Tuesday evening, His Worship Mayor Botteril and Mr. E. Michener, M.P.P., formally welcomed the delegates to the Town of Red Deer and spoke in complimentary terms of the value of the dairy industry to the farmers of Alberta. On behalf of the town the mayor presented to the delegates complimentary tickets to the Red Deer Museum, of which they were very proud.

Mr. Michener spoke of the solidity and prosperity which characterized the dairy districts everywhere and congratulated the Department on being so thoroughly in sympathy with the development of this great industry.

On behalf of the visiting delegates Hon. Mr. Finlay replied to the addresses of welcome and referred to Red Deer as an excellent example of what can be accomplished in a typical mixed farming district. He assured the dairymen of the province of the continued co-operation of his Department in their work of development.

Mr. Harcourt gave a thoughtful address. He said stock raising, and particularly that line of it which develops into dairying, was one of the most important foundation stones in successful agriculture. He had noticed in his travels over the various provinces of the Dominion that those districts devoted to dairy stock were the most substantial and progressive ones. He dwelt upon the fact that the province was making great progress, not only in the increased area devoted to grain growing, but also in intelligent methods of soil culture. In the southern portion of the province experiments were being tried along the lines of the Campbell System of soil culture in order to obtain an increased store of moisture and thereby enhanced yields. In the north it might be necessary to make the soil firmer so that growth would not be so prolonged nor so excessive. More and better cultivation was overcoming the late spring and early fall frosts, and he thought that a little more hustle during spring seeding would soon cause frosts to disappear altogether. This had been the history in other new countries, and would no doubt be the history here also.

Reference was made to the fact that the stock industry was in a transition stage. The large ranges were disappearing and cattle were being kept on the farm. This change in the methods of stock raising would lead to winter feeding. This is being done even now, and large numbers of animals are being fed for sale in the spring when prices were high and fewer animals offered for sale. This would surely prove a better method of handling stock than feeding for fall delivery off the range when there was a plethora of stock for sale. He remarked on the amazing readiness with which the receptive west was putting progressive ideas regarding agriculture into successful practice.

Dealing more specifically with dairying, he said that every creamery could double its output of butter without its patrons keeping another cow by following a few simple rules which could be summed up under three words—feed, breed, weed.

FEED.—Mr. Harcourt emphasized the need for great care in the handling of dairy cattle and in the feeding of them. "Feed was half of breed." This was a very old axiom but a very true one. The realization of this important thought was a first essential towards success, because milk is the product of the surplus food consumed by the cow over and above what she requires for the other processes of the body.

BREED.—The second point upon which stress should be laid was the great possibilities of improvement that lie in the use of a purebred dairy sire. Few people realized that by means of a good sire the milk yield of the progeny of the cows now in a herd could be almost doubled. This had been proven time and again for another old axiom is also true—"a sire is half of the herd." It was possible by the use of a good sire to ingraft the excellent qualities of any dairy breed upon the present herd of any patron of a creamery.

WEED.—A third point was to find out the ability of each cow by weighing her milk night and morning and by testing for butter fat. By such a record it would be possible to know at the end of the year just what each cow has done. The best cows only should be kept in the herd and the poorest disposed of. Then the heifer calves from the best cows only should be kept to go into the herd. If carefully followed out these three lines of work would make a most wonderful improvement in every herd in the province without any great expense.

In the past the great effort of the Dairy Commissioner's Branch had been to improve the quality of Alberta butter, and he was pleased to be able to say that Alberta government creamery butter had a reputation second to none. The Deputy Minister wanted the patrons to join, not only in this effort for high quality by producing pure milk and cream, but to increase the quantity by more careful feeding, by intelligent breeding and by systematic weeding out the poorest milkers.

He was pleased to say that the private creameries were making great progress, and they also were striving for uniformity in colour, quality and a uniform package. They were also asking for inspection in order to improve the grade. The Department would continue its educational work along all the lines it had begun, and would endeavour to instil correct ideas of progress. He felt satisfied that the intelligence and self-reliance of the Alberta farmer was going to make this the banner province of the Dominion.

Mr. W. F. Stevens, Live Stock Commissioner, briefly referring to some points in Mr. Harcourt's address spoke of his recent visit to Pallesen Bros.' dairy farm near Calgary. The herd on this farm consists of some 80 cows and while they are chiefly grades it was very evident that these animals gave good returns for the excellent care they received in comfortable, well lighted and ventilated stables. Without proper feed and care even the best bred animals cannot produce results.

Speaking of the swine industry, a subject which should interest every dairy farmer, Mr. Stevens said that the production of hogs had more than doubled in the province during the last three years, yet this increase was not nearly as great as it really ought to be. At this time the farmers were very desirous of obtaining information regarding the proposed Government pork packing plant. He outlined the progress that had been made in the project and added that if it be received by the farmers in the same spirit of harmony and co-operation as they have shown in the creamery work the venture would undoubtedly be successful; but, he concluded, we must avoid any possibility of failure.

Hon. Mr. Finlay occupied the chair at the Wednesday morning session and after a few introductory remarks called upon his Deputy, Mr. Harcourt, to announce the action that had been taken by the Department with reference to the resolutions which had been adopted by the convention of the previous year.

At the conclusion of Mr. Harcourt's announcement the Dairy Commissioner presented a general review of the dairy industry of the province for the year 1908. He dealt at some length with the business of the Government creameries and used charts to illustrate the relative butter production and selling prices at different times of the year. He emphasized the necessity of thorough going work by the co-operative associations in their respective fields with a view to increasing and improving their cream supply and butter production.

Most of the matters discussed by the Dairy Commissioner are to be found in the text and tables elsewhere in this report and need not therefore be reproduced here.

As at previous years' conventions a good deal of time was spent, and well spent, in a general discussion of markets, methods of selling, of accounting, etc., so far as the butter output of the Government creameries was concerned. Discussion and criticism is always welcomed. It is quite right and fitting that the local creamery managements should take a keen and intelligent interest in the

marketing end of the business, more especially as they will eventually be required to undertake a greater share in the management of their creameries.

Most of the delegates who took part in the discussion showed by their remarks and suggestions that they had given these matters very careful thought and close study. The success of co-operative business and organization depends not only upon the loyalty of their membership but also and to a large degree upon the integrity, common sense and ability of the men who are appointed to leadership in such organizations.

Mr. W. F. Stevens followed with an address on "Special Dairy Breeds of Cows."

He said:

At your last annual convention a resolution was adopted asking that the Provincial Government assist the dairymen of this province in introducing purebred animals of the special dairy breeds. This matter was brought to my attention shortly after I assumed the duties of live stock commissioner; later on, a number of similar requests were received from individual parties. In compliance with these various requests, the sum of \$1,000 was set aside to be expended in assisting dairymen in bringing into the province purebred dairy cattle, by assuming the burden of transporting them at the uniform rate of \$5 per head.

The breeds of animals specified to which assistance was to be given were the Jerseys, Gurnseys, Holsteins and Ayrshires. The provinces in which these animals would be received for transportation were Saskatchewan, Manitoba, Ontario and Quebec. Circular letters were immediately sent out to the various creameries and farmers' associations and agricultural societies, making known the nature of the assistance which would be granted in this matter. In a few days replies to these letters began to be received, but the greater number of them were in the form of complaints. One party complained because the dairy strain of Shorthorns were not included in the list; another complaint was that the assistance was confined to the provinces specified, and a third remonstrated because in his opinion the assistance given would be of little value in that it made no provision for aiding the farmer in making the trip east to select such animals as he might wish to buy, and the western buyer was therefore at the mercy of the eastern seller; while a fourth found fault and maintained that if the assistance given continued for any length of time it would drive the local breeders out of business.

Regarding the various points complained of, I may say that the matter of including the milking strain of Shorthorn was discussed at considerable length but as there is no distinct type of this breed recognized in the Dominion herd book and as it was thought best to secure as far as possible a foundation stock of dairy animals within the Dominion, milking Shorthorns were not included. Regarding the complaint made against limiting the importation from the provinces named, I may say that this was done because those are the provinces in which the greatest number of animals of the breeds named could be secured, and the department recognized that the greatest expense would be incurred in collecting the animals to some central point from which they can be shipped in carload lots and it was considered advisable to restrict this expense as much as possible. In reply to the complaint that the course adopted by the Government would be likely to drive the local breeders of dairy cattle out of business, I may say that the amount set aside for the purpose of bringing in dairy animals is limited to \$1,000 and the assistance applies only to the year 1909, if at the end of that time there is evidence that the local breeders are in a position to supply the demand for cattle of this kind, there is little danger of a like arrangement in the future. If, however, the demand should be noticeably in excess of the supply and if the matter is properly brought to the attention of the Provincial Government, it is more than probable that this arrangement will be renewed for another year.

In connection with the special dairy breeds, I am frequently asked two questions, one is, as to what is the best breed of dairy cattle; the other is, would it pay the ordinary farmer who has cows which are fairly good milkers and which are also suitable for beef production to dispose of them and invest in the special dairy breeds? As regards the first question, I can only say that this depends entirely upon the individual. I have known men who made money keeping Jerseys, others did just as well with Ayrshires and still others who got rich with Holsteins, and I have known just as many men to get poor keeping the same breeds. The explanation for the difference in results lay in the fact that the former were dairymen and the latter were not; and my answer to this question is that the best breed of dairy cattle is the dairy *man*.

Regarding the question as to whether or not it will pay the ordinary farmer who has fairly good dual purpose strain to dispose of his present stock and invest in animals of one of the special dairy breeds, I can only say that this will depend entirely upon circumstances and he himself will be the principal factor to be considered. There are many farmers who might profitably do this and there are others who would be certain to lose money if they made such a change. The reason for this lies in the fact that the special dairy breeds are refined and sensitive animals. They suffer from little annoyances that the more phlegmatic breeds scarcely notice and anything which tends to annoy or excite them impairs their working powers; or in other words, their capacity for giving milk of high quality. These special dairy breeds require a liberal supply of wholesome and palatable food; they require shelter from inclement weather, they also require protection against such disturbances as mosquitoes, dogs and high-tempered, excitable milkmaids and stable men. These are the conditions under which special dairy breeds will yield a profit to their owners and the man who can comply with these conditions will make money by disposing of his coarser stock and investing in one or the other of the special dairy breeds. The man who cannot do this had better stick to what he already has, because he stands a chance of making on his steers what he loses on his cows, and thus he cannot hope to do with dairy stock.

There are certain classes of men who should not under any circumstances invest in the special dairy breeds, and of these I wish to make brief mention. As I remarked a moment ago, the conditions upon which this class of animals can be made profitable to their owners is that they be supplied with wholesome, nutritious and palatable food, that they be protected against inclement weather and all influences which might tend to annoy or excite them. These are the conditions which the dairy cow lays down to her owner and the conditions with which the owner must comply. If, however, you entertain so high an opinion of yourself that you think it beneath your dignity to submit to conditions laid down by a cow, don't invest in one of dairy breeding. While she may be unable to protect herself against such cruelties as you may inflict upon her, she always has the power of getting revenge and she does this by losing money for you.

Another class of people who should not under circumstances own any of the special dairy breeds are those extremely sensitive individuals who fancy that when a cow steps on their toes the only way to vindicate their honour is to knock a horn off her with a milking stool. This is not imaginary, because I have known it to happen in real life and the peculiarity of it is that this class of men are frequently the ones to complain most regarding the size of the cheques which they receive each month from the creameries.

Still another class of farmers whom I would advise not to dispose of their dual purpose cattle, if they have any, in order to invest in any of the special dairy breeds, are those who follow a practice which I find not uncommon in Alberta. The practice to which I refer to is that of putting a boy on a cayuse and telling him to take the dogs and bring in the cows. The result usually is that these animals are brought in on the run with the boy shouting and the dogs yelping at their heels. The man who does this may break even, provided he has a few steers to sell every year, but he is certain to lose money if he follows that practice with any of the special dairy breeds. To my mind, one of the worst combinations that can be found on a dairy farm are a boy, a cayuse and a dog. When I began farming I used to think that a dog was necessary to successful stock growing, but I have changed my mind upon that point, and I have not owned a dog for the past fifteen years and I make it a business to dispose of every stray that tries to take up his abode with me. I have a boy and a cayuse of my own whom I find very useful for bringing in the cows when milking time comes, but I take good care to see that he has no dogs with him.

At the afternoon session the Deputy Minister spoke on the creamery work for 1909 and reviewed the events which led up to the Dominion and Provincial Governments undertaking to manage the business of a number of creameries situated in the province. In earlier years when the business was somewhat of an experiment, the markets limited and uncertain, he held that there was ample justification for the Government embarking in such work. Now, however, these conditions have changed. We have in the west a ready cash market and an excellent demand for all the butter the creameries can turn out.

A number of the creamery associations are now out of debt and there appears to be no good reason why they should not undertake at least a part of the local management of their own business. The

assistance which the Government has been giving to the creameries was intended to apply only until the associations were able to handle the business themselves. For instance, all the work of keeping the patrons' accounts has been done in the Dairy Commissioner's office at Calgary, involving a mass of detail work and thus far no charge has been made for that service. He could see no reason why the associations could not do this work themselves nor did he think that they would object, at any rate, to bear the expense of having it done by the Department. It is estimated that the cost of the book-keeping in connection with the patrons' accounts is in the neighbourhood of one-half cent per pound of the butter manufactured. If any of the creameries prefer to take over the book-keeping and issuing of the patrons' cheques rather than pay the Department for doing it arrangements may be made whereby the net proceeds from the sales of butter may be turned over to the associations periodically in a lump sum and be finally disbursed by their own officers.

Mr. Harcourt's address started a lengthy and very enthusiastic discussion. The creamery delegates present expressed their views freely and were decidedly opposed to any change being made in the management of the creameries for at least another year. Still, they considered it only fair that the cost of accounting should be paid for out of the proceeds from the butter sales. It was agreed therefore that the cost of book-keeping in the Dairy Commissioner's office should be included in the general manufacturing charge the same as, for instance, the costs of the cold storage service. Accordingly, the charge for accounting was included in subsection 1 of section 8 of the agreement covering creamery operations for the year 1909.

The following comments are quoted from the Lacombe Advertiser of April 22, 1909, and give an interesting side light on the points discussed at the Wednesday sessions of the convention, namely:

One of the interesting features of this convention held on the 13th and 14th was the discussion raised by the president of the Lacombe creamery in reference to the question of selling the butter, whether the time had not arrived, as the question was put, when the middleman, the wholesaler, could be cut out, and sales made direct to the retailer. After considerable of discussion and many direct questions to the superintendent, involving a lot of information as to the mode of selling, the opinion appeared to be that at all events for the present under existing conditions and the large quantity to be disposed of, the Dairy Commissioner's system could not well be improved upon.

The fact of the dairymen expressing a doubt as to whether improvements in management could be made, gave Deputy Minister Harcourt an opportunity, which he improved at the afternoon session, to introduce the question of the older creameries that were out of debt, paying dividends, etc., swarming out and allow the Department without any increased expenditure to devote its energies to other lines of development. For instance, the improvement of dairy stock increasing the cream and butter output without increasing the number of cows. As we are not among the self sustaining creameries and still willing to be under the fostering care of the Government we thought the deputy's plan a most excellent good one and were quite surprised to find after a very definite expression of opinion from the delegates that they all wanted to stay under the paternal roof. None would impugn the minister's motive but it certainly in its results emphasized the fact that all hands were satisfied with both the work of the government and the dairy commissioner in connection with the creamery industry.

The Evening Session.

Mr. A. C. Hare, President of the Earlville Creamery Association, was elected to preside over the Wednesday evening session, Mr. Finlay having left by the afternoon train.

This session was devoted to a discussion on creamery and association book-keeping. Messrs. C. J. B. Ward and E. J. Fream, secretary-treasurers of Red Deer and Innisfail creamery associations respectively, leading. Both of these gentlemen explained their method of handling the various accounts. After the several association secretaries had expressed their views a resolution was adopted asking that the Dairy Commissioner draft and submit to the associations a uniform set of books combining all the desirable points brought out in the discussion.

The committee on resolutions, Messrs. Fream, Ward, Hare, Carswell and Morkeberg, presented its report and the following resolutions were adopted:

The Evening Session.

1. That this convention places on record their appreciation of the services and assistance rendered to the creamery industry by the Minister of Agriculture and his staff, more especially the Dairy Commissioner, Mr. C. Marker, who has devoted so much of his time and services to this work, and the convention feels that it is impossible to emphasize too much the splendid work being done by him.

2. Whereas it has been brought to the notice of this convention that the department of Agriculture is of the opinion that the time has now arrived when the older creamery associations shall take up a greater share of the work, therefore be it resolved that the department be requested to continue the agreement now in force for one year and in the meantime that a statement be issued by the Dairy Commissioner to the associations showing just what the department wishes the associations to do so that all can properly discuss same and be prepared to act on it at the next annual convention.

3. Resolved that this convention suggests to the Department of Agriculture that the scheme outlined by the Deputy Minister of Agriculture to the meeting, that the association shall bear the charge of book-keeping, auditing, issuing of cheques, etc. That this charge shall be made only on the creamery associations now out of debt and self-supporting. Also that these associations be charged only with the actual expense incurred by each association such expense not to exceed one-half cent per pound. But that creamery associations now in debt be not charged this amount until such time as their indebtedness is paid off when this rule shall become operative; further that the associations now known as self-supporting be given the option of either agreeing to this charge or to undertake all the work as above outlined, the Dairy Commissioner issuing cheques to the associations for butter sold.

4. That the Government be requested to amend the regulations applying to the importation of pure bred dairy stock by adding Shorthorn cattle of dairy strain.

5. That the sections in the Dominion now omitted from the regulations be added to the list of the provinces from which dairy cattle can be imported.

6. That this convention request the Minister of Agriculture to take up with the Executive Council and secure the passage of an Act to regulate all creameries and cheese factories such act to cover the issuing of proper statements showing the relative proportions of butter and butter fat each month and the basis of payment; the requirement of full weight and the proper amount of moisture and other foreign matter in butter and cheese; and also that the act be made so that the Government will have full power to inspect creameries and cheese factories, not only in the manufacturing, but also in all matters of sanitation; further, that the books of all creameries and cheese factories shall be open to the inspection of patrons at any time.

7. That the Government be requested to take steps to pass the necessary legislation whereby no person or company can erect a creamery or cheese factory in the province without first securing a permit authorizing the erection; the applicant to file plans of the proposed creamery or factory and state the area from which the support will be drawn; the plan of permit to be drawn and full authority for issuing of same to be granted by a special council appointed as follows: One member to be nominated by the Government, one by each of the organized associations now existant in the province and the associations interested in this industry, also that all creameries and cheese factories be licensed and that the license be renewed yearly.

As an outcome of the discussion re the cost of keeping the patrons' accounts, etc., and the proposal made by the Department, the creamery association at Blackfalds decided to undertake for the year of 1909 at least, the local administration of their business and the following agreement was entered into with the Department, namely:

Witness: _____ Dairy Commissioner.

Referring to my letter of the 25th instant. You will find enumerated below some of the subjects which will be included in the programme, also the names of

some of the speakers who will present them. Sufficient details are given, however, to indicate the nature and range of subjects which should be of immediate interest and value to every butter and cheese maker who aims to excel in his profession.

The various subjects for consideration will be presented to suit the requirements of the convention and it is hoped that those who arrange to attend will be present at every session.

Butter Show and Scoring Contest.

A show of creamery butter will be held in connection with the convention. Prizes will be awarded and presented at the meeting which will be held in the evening of the 15th. See enclosed premium list.

A butter scoring contest will also be conducted and suitable prizes offered for the most accurate work. Bring your butter trier along and be prepared to take part in the contest. Every buttermaker should be a good judge of butter, especially of workmanship. The enclosed score card will be used in the scoring. No entry fee charged.

Cheese Making.

Cheese makers will be glad to learn that the discussions on this branch of dairying will be introduced by Mr. T. B. Millar, who has a long experience in the manufacturing as well as in the commercial department of the business, and by Mr. W. Hamilton of the Dairy Commissioner's staff, late instructor in the Province of Ontario.

Testing of Milk and Cream.

This opens up a wide field for the discussion of methods and will include (1) sampling, (2) make-up and care of the composite sample, (3) testing. Many of the factors which effect the final results of the test and "over-run" will be enumerated and discussed. Facilities will be provided for practical work under this head. Complete testing equipments and material will be placed at the disposal of students under the supervision of competent instructors.

Handling of Steam Boilers and Engines.

This subject will be presented by Mr. F. W. Hodson, Government Inspector of Steam Boilers, and deserves close attention of the cheese and butter makers present.

Determination of Moisture Contents in Butter and Cheese.

Instruction will be given in the use of the following methods of determining the moisture content of dairy products. The Farrington, the Geldard, the Mitchell-Walker, and the Irish tests. The butter and cheese makers will have an opportunity of practising and familiarizing themselves with each or all of the methods enumerated.

Creamery Buttermaking.

The splendid reputation which Alberta Creamery butter is winning for itself is due in a very large measure to the bright, progressive buttermakers in charge of our creameries, to their application of scientific principles and common sense methods in their daily work. Sufficient time will be devoted to the discussion of buttermaking in its various stages to bring out a lot of good, useful information.

Book-Keeping.

Mr. F. W. Underwood, accountant, will be present to discuss book-keeping and records.

Labour Saving Appliances and Methods.

This is another helpful department which will be given due prominence. If you can contribute, kindly be prepared to present a concise and clear statement.

Economics in the Factory.

This subject will lead up to a most interesting discussion and one in which we should all be interested. It will deal with men and methods.

The Ideal Butter and Cheese Maker.

Do you know him? An attempt will be made to define his many relations with the somewhat complex conditions surrounding him in his work. You know we must all work towards an ideal and if those who attend the convention can set up such an ideal and steadfastly work towards it, the dairy industry of the province will be the better for it.

Speakers.

The honourable the Minister of Agriculture and the Deputy Minister have kindly consented to honor the convention with their presence and an address. The minister will present the prizes to the winners in the various contests. In addition to the speakers already mentioned the undersigned and the provincial dairy instructors will be in attendance at all the sessions. The detailed programme of each session will be announced at the convention.

The first session of the convention will commence at 8 o'clock p.m., on Wednesday, April 14th, and all meetings will be open to the public.

Farmers and representatives of the press we cordially invite.

Faithfully yours,

C. MARKER,
Dairy Commissioner.

Provincial Dairy Convention, Red Deer, Alberta.

April 14th to 17th, 1909.

PREMIUM LIST.

Class 1.—Exhibit of Creamery Butter.

Section 1. One fourteen-pound box of butter, solid pack. Section 2. Five one-pound prints, put up in unprinted wrappers.

Prizes for the exhibit in both sections with the highest average score, Silver Challenge Trophy donated by Messrs. Ellis & Grogan, Calgary, on behalf of Messrs. C. Richardson & Co., St. Mary's, Ont. This trophy is to be won twice by the same exhibitor to become his property. It was won in 1908 by Mr. L. M. McLean, Innisfail, Alta.

In addition to the above a sum of money will be divided pro rata (on points) among the exhibits showing an average score above 92 points.

Class 2.—Butter Scoring Competition.

Section 1. Free for all.

First prize, Silver Trophy, to become the property of winner. Second prize, \$3.00; third prize, \$2.00.

Section 2. Novices (those who have not participated before in a similar contest may enter in this section as well as in Section 1).

First prize, Silver Medal; second prize, \$3.00; third prize, \$2.00.

The time occupied by the short course work was divided between the class room and the Red Deer creamery. In the former the addresses were delivered, followed by discussions in which practically everyone present took part. The work at the creamery was of a practical nature and consisted largely in sampling and testing milk and cream for butter fat and butter for moisture content.

The Butter Exhibit.

Considering that the majority of the creameries do not usually open for the season till after the first of May the number of exhibits brought to the convention (fourteen) was very creditable indeed. The exhibits were judged by Messrs. H. S. Pearson and Geo. W. Scott and the prizes awarded as follows:

Richardson's Challenge Trophy—L. M. McLean, Innisfail, average score 96.5 points.

Second—J. M. Stevenson, Red Deer, average score 95.5 points.

Third—H. W. Trimble, Red Deer, average score 94 points.

Mr. McLean having now won the Richardson Trophy twice it becomes his property.

The Butter Scoring Contest.

The butter scoring contest is one of the features of our short course work which all the buttermakers take a great interest in. It is conducted as explained in my report for 1908.

The following are the winners and the prizes awarded in the scoring contest:

Free for all Class.

First—A. Pederson, Evarts, The Campbell-Marker Silver Trophy.

Second—D. Morkeberg, Markerville.

Third—L. M. McLean, Innisfail.

Novice Class.

First—Silver Medal, W. H. Morris, Wetaskiwin.

Second—A. Prout, Red Deer.

Third—W. R. Meacham, Bonnie Glen.

VII.—EXHIBITION WORK

The demand for the services of expert judges of dairy produce at the fairs is increasing yearly. During the past year the undersigned and the provincial dairy instructors were invited to place the awards at a number of summer and fall fairs.

At the provincial exhibition held at Calgary practical demonstrations in home dairy work were given daily in the dairy pavilion and attracted a large number of interested spectators.

VIII.—BUTTER AND CHEESE FACTORY INSTRUCTION

As in former years, the dairy instructors, Messrs. H. S. Pearson and George W. Scott, paid periodical visits to the creameries in the province and Mr. Walter Hamilton was engaged during a part of the time as cheese instructor, visiting the factories at which his services were desired. Mr. Hamilton had been previously employed as instructor and sanitary inspector of cheese factories in Western Ontario, whence he comes well recommended.

It can be said that, on the whole, the visits and services of the dairy instructors have been appreciated by the butter and cheese makers with whom they came in contact and productive of much good in the way of greater uniformity in the quality and marketable condition of the butter and cheese production.

IX.—PUBLIC MEETINGS

During the winter and early spring of 1909 the members of the dairy staff, in company with Messrs. J. G. Clarke, A. S. Blackwood and W. J. Tregillus, attended and addressed farmer's institutes and special dairy meetings at the following pints, namely:

Hardisty	Ranfurly	Red Deer
Lougheed	Viking	Canyon
Sedgewick	Holden	Blackfalds
Stroue	Equity	Lacombe
Daysland	Tofield	Bentley
Spring Lake	Lavoy	Rimbey
Bawlf	Vegreville	Valley City
Camrose	Chaley	Alix
Rosenroll	Knee Hill	Content
Lewisville	Grassy Lake	Erskine
Wetaskiwin	Lake View	Stettler
Millet	Trochu	Red Willow
Bonnie Glen	Three Hills	White Brush
Conjuring Creek	Carbon	Lamerton
Leduc	Sunnyslope	Earlville
Spruce Grove	Sterlingville	Morningside
Stoney Plain	Neapolis	Ponoka
Rivierre Qui Barre	Didsbury	Ferry Bank
Morinville	Adkins School	Hill End School
St. Albert	Olds	Antler Hill School
East Clover Bar	Carstairs	Aberdeen School
Lloydminster	Bowden	Little Red Deer
Norwayne	Innisfail	School
Kitseoty	Penhold	Gordon School House
Islay	Markerville	Big Bend School
Vermilion	Dixon	Westholm School
Mannville	Evarts	Betchton School
Minburn	Eckville	
Innisfail	Burnt Lake	

X.— CORRESPONDENCE

During the twelve months ending December 31st. 1909, 3,737 communications were received at this office and 4,544 sent out, in addition to a large number of circulars prepared for and distributed among creamery patrons and cream haulers dealing with matters of a more or less technical nature.

XI— ACKNOWLEDGEMENT

I desire to record my acknowledgement and appreciation of the faithful services rendered by the various workers connected with the Dairy Branch in field and office. The public press has also lent valuable assistance to the industry in disseminating dairy information and urging higher standards.

C. P. MARKER,

Dairy Commissioner.

3.—REPORT ON NOXIOUS WEEDS.

SIR,—The report of this branch of the work of the Department must necessarily be somewhat brief, owing to the untimely demise of the late Chief Weed Inspector, Mr. T. B. R. Henderson, in November, through typhoid fever. It is not possible to fully cover the work as much of the detail was known only to himself, and, though the records are available, no one is quite so able to interpret them as the man who made them. This was Mr. Henderson's second season, and on account of the change in the policy of the work he was very anxious that the new method should prove more efficient than the old one. He therefore gave himself freely to the work.

The southern portion of the province, where settlement was proceeding most rapidly and where enormous areas of new land were being quickly brought under cultivation by large traction outfits, appealed strongly to him. He felt it would be a lasting disgrace as well as a national calamity were these new lands allowed to become filled with noxious weeds before they had lost their virgin condition. The winter winds blow the seeds of many noxious weeds over the snow covered prairies with the result that the unbroken land is well stocked with the seeds of noxious weeds, and the fight is on from the start. The weeds thus often get the start of the unsuspecting settler who, knowing he has virgin land and thinking that it is therefore free of weeds, breaks large areas and attempts to cultivate much more land than it is possible for him to handle properly. Mr. Henderson fully realized the importance of the situation and made a determined effort to arouse the farmers to the danger in which they stood. Much of his time was therefore spent in the southern portion of the province where he worked by day and had of necessity to travel by night. This, no doubt, wore him down and made him subject to an attack of typhoid fever.

The following report has been compiled in his branch:

During previous years the province was divided into a large number of districts for the purpose of weed inspection. Last year there were no less than ninety-eight districts. The appropriation for the destruction of noxious weeds, however, would only allow each inspector to be employed for an average period of about three weeks. This was hardly sufficient to enable the inspector to cover his district, and was totally insufficient to give them the time necessary to make a second visit to those farms where weeds were so bad that notice to destroy them had to be issued. This tended only to make a farce of the work of inspection as farmers would soon know that no one ever came round to see if they had cleaned up their weeds after receiving notice to do so. It was thought that were fewer inspectors appointed and employed for the whole summer that better work could be done. Weedy farms could be visited a second, and even a third time, if necessary. It would then be possible also to have the inspector visit all threshing outfits during the threshing season and ascertain whether the provisions of the Noxious Weeds Act, in so far as they apply to threshers, were being observed.

The new plan presented so many points in its favour that it was decided to give it a trial. Accordingly, the province was laid off in eighteen districts. These districts were placed in charge of the most experienced inspectors, men who had shown that they

possessed the tact and ability to deal successfully with farmers. Some of the districts in the southern portion of the province proved to be too large, and three additional inspectors were appointed to thoroughly cover the territory. The first work of the season was to issue a circular notice to every farmer on whose farm certain noxious weeds had been reported, particularly stinkweed. The object of this was to warn against this pest and indicate methods of eradication by a personal notice. There is no doubt this letter accomplished much good.

The regular work of inspection began on the 14th of June. Each inspector was furnished with a list of the farms in his district on which the presence of stinkweed, Russian thistle and Canada thistle had been reported in previous years. He was requested to keep close watch on these farms and to enforce the provisions of the Act very rigidly in these cases as each farmer had received instructions the previous year to see that this land was kept clean. Each inspector kept a diary and made reports of every farm visited, showing on township diagrams the lands on which weeds were found and the kinds.

In addition to the regular stationery required for his work, each inspector was furnished with copies of all the Acts and Ordinances coming under the jurisdiction of the Department. The provisions of these Acts were explained to each inspector and thus he was able to advise and assist many farmers.

The total number of days inspectors were at work amounted to 1,491½. The longest period any one inspector was employed was 105 days and the shortest 20 days, being one of those added towards the close to complete a district. The average number of days inspectors worked was 71.

Notices were served on 1,280 farmers to have their weeds destroyed within ten days, and as noted above the inspector returned in ten days to see if his orders had been carried out. If on his second visit it was found that the weeds had not been destroyed, steps were taken at once to begin prosecution for violation of the Act. The prosecutions made the previous year must have had some effect in persuading farmers to clean up their lands for it was found necessary to make only sixty prosecutions throughout the province. While it is not a pleasant matter for the Department to have to bring prosecution, yet it seems to be about the only way to make some people realize their duty to others. It is pleasing to note that the Department's efforts to keep down weeds meets with general approval wherever prosecution has been made.

The heaviest fine imposed for not cleaning up weeds was \$40, and the lowest \$1.50. It is to be regretted that magistrates are rather inclined to be too lenient when passing upon cases before them for infraction of the provisions of the Act. Generally speaking, they will be upheld by a majority of the best people of any district if rather severe sentences are given. One of the greatest tasks encountered has been the difficulty of getting speculators to clean up unoccupied land. One real estate firm was fined three different times for neglecting to destroy weeds. This might seem like persecution, but a homesteader adjoining this land had to plow up eighty acres of his first crop, and the yield on the balance of his land was seriously reduced because of the failure of this firm to keep down the weeds. Besides this his land has been seeded to weeds which will take him years to eradicate, all because this real estate firm refused to clean up their weeds.

A considerable amount of money has been spent in cleaning up weeds on abandoned homesteads, road allowances, fire guards, Dominion lands, vacant or unoccupied land, and on occupied land where for one reason or another it could not be done by the owner or occupant. A large portion of this expenditure has been recovered, and it is expected that all will be received in due course.

The idea of having the inspectors visit all the threshing machines while in operation proved a most valuable one. Each inspector was asked to set aside twenty days for this work. He was also asked to forward a complete list of the machine owners in his district as this would be of great value to the statistical branch as well as for future reference for weed work. On the whole the threshers were found to be doing good work and observing the provisions of the Act. Here and there, though, some men were found who were careless and needed a lesson.

During the year bulletins on stinkweed and Russian thistle were prepared and printed. In addition to the regular mailing list these were specially mailed to all those reported by the weed inspectors as having the above mentioned weeds on their farms. It was intended that a bulletin on Canada thistle should also be written, but on account of pressure of other work this was never done. Each weed inspector was given a supply of these bulletins for distribution to any farmer he visited who was without them.

4.—REPORT OF THE CHIEF GAME AND FISH GUARDIAN.

SIR, I have the honour to submit herewith my report for the year 1909 in matters pertaining to the protection of game and the prevention of prairie fires.

I.—PROTECTION OF GAME.

I stated in my third annual report that a continued improvement was noticeable in the manner in which the provisions of the Game Act were being observed. I am pleased to be able to state that during the past year this improvement is still noticeable. True, some districts do not show this improvement but it is hoped that districts which received attention during 1909 will not require the expenditure of as much time by salaried game guardians during 1910. This will therefore permit of their devoting at least a portion of their time to other districts and should result in the better protection of game in such districts. In the majority of cases sportsmen are willing to comply with the game laws just as soon as they are satisfied that it is the intention of the Department to prosecute in all cases where sufficient evidence to secure a conviction can be obtained.

It is, therefore, recommended that the number of salaried guardians be increased and thus save our game from being unnecessarily depleted. It is much easier and more economical to protect what game we have by properly enforcing the laws framed for its protection than to permit it to be slaughtered and then later attempt to restore it by propagation. Many of the States in the eastern portion of the United States have allowed their game to be killed out and now find it very expensive trying to restore it, to say nothing of the loss of revenue both directly and indirectly.

GENERAL NOTES ON GAME.

Ducks, geese and other migratory birds reached the southern part of the province in the early part of April, the central part about the middle of April, and the northern part the last of April or the first of May. It was reported that wild geese were seen at Medicine Hat the last week in February but owing to the lateness of the spring very few birds were to be found until May. The lateness of the spring also meant a late hatch, the result of which was that when the season for waterfowl opened on the 23rd day of August the young birds were exceedingly small and the older birds very thin.

Prairie Chicken.—I am pleased to be able to report that these birds are again becoming plentiful. There are sections of the province where they are still exceedingly scarce but as they have been gradually increasing and spreading during the past two years I have no doubt that they will eventually become reasonably plentiful providing, of course, that the coyotes do not increase unduly while rabbits are scarce, or the settlers do not persist in kindling fires in the spring of the year and allowing them to needlessly run over large tracts of country. The spring fires destroy the nests and young of our game and insectivorous birds and it is safe to say that there is no other agent so destructive of bird life.

Partridge.—The above remarks respecting prairie chicken will also apply to partridge although the spring fires do not usually affect these birds to the same extent.

Hungarian Partridge. These birds were introduced by the Alberta Fish and Game Protective Association, the experiment having been first tried in the spring of 1908. The first shipment, placed near Calgary, having done well, another lot was obtained in the fall of that year. This, with a larger shipment in the spring of 1909, has so stocked the southern part of the province as to ensure excellent sport in a few years. These birds are said to be very prolific and capable of taking care of themselves much better than any of our native upland birds. Although none of these birds were placed north of Alix reports received in the Department show that two or more covies have been seen in the district west of Leduc.

Hungarian Pheasant.—A number of these birds were also introduced by the above mentioned association in the spring of 1909 and although they have not increased to the extent that was expected, owing no doubt to the late date on which they arrived, it is expected they will make a better showing during the coming year.

Fur-bearing animals.—The returns received from dealers in the pelts of fur-bearing animals as required under the provisions of section 31 of the Act, and compiled on page 99 indicate that fur-bearing animals were very scarce during the year ending the 31st day of May, 1909. I am, however, pleased to state that reports received from trappers and dealers show considerable increase in the total value of the fur catch for the year ending the 31st of May, 1910, over that of the two past seasons.

Elk, Wapiti.—The three years of protection enjoyed by elk—the noblest of our game animals—has been the means of preserving these grand animals from extinction. If this close season had not been maintained there is no doubt that these animals would have been almost if not quite extinct in the province. The close season expires the 1st of November, 1910.

Moose.—These animals are probably more plentiful than they have been for some years. Parties who held permits to collect young moose during the past year had little or no trouble in securing all their permits called for, and hunters were very successful in securing their limit of one animal.

Deer.—In speaking of deer reference is made to the mule deer. They are reasonably plentiful in almost every section of the province. The white tail or Virginia deer is practically extinct in Alberta. In the opinion of some sportsmen the mule deer drive the Virginia deer out. If this be the case it would account for the fact that these animals are seldom if ever seen of late years.

Antelope.—It is pleasing to again report that these animals are on the increase. Although not so plentiful as previous to the year 1907, the present system of protection will save them from extermination for some years. It is of course conceded that settlement of their range will eventually crowd them out. It is hoped, however, that a sufficient number of them will be placed in the different parks in the province, thus saving them from total extermination.

Mountain Sheep and Mountain Goat.—After two years protection sportsmen had an opportunity of shooting these animals last fall.



GROUP OF ANTELOPE CAPTURED ON THE PRAIRIE, AND NOW IN THE ROCKY MOUNTAIN PARK, BANFF

While a few were killed by sportsmen during the open season yet reports indicate them as being fairly plentiful and little danger of their numbers being unduly reduced. It is not known of course how many were killed by Indians, but as no person is allowed to hunt in the Rocky Mountains or Jasper Parks there is no reason why these animals should not soon become plentiful.

BIG GAME.

The animals mentioned in section 4 of the Act—Buffalo, mountain sheep, mountain goat, elk, wapiti, antelope, caribou, moose and deer—are referred to as big game. They constitute a very valuable asset of the province, not only as a source of food supply for trappers, prospectors, and settlers in the north, but as a source of pleasure and recreation for many of the residents in the south and central portions of the province as well.

The presence of big game is sure to attract sportsmen and they are coming to the province each year for the purpose of hunting big game. They, of course, find it necessary to engage guides and camp helpers at good wages, which, in addition to other expenditure, amounts very often to many hundreds of dollars and is thus an indirect revenue. A direct revenue is obtained by the Department from the sale of non-resident and residents' big game licenses which amounted to a considerable sum in 1909. (See page 98.)

GAME BIRDS.

The game birds constitute those birds mentioned in section 5—ducks, swans, cranes, rails, coots, snipe, sand piper, plover, curlew, grouse, partridge, pheasant, ptarmigan and prairie chicken—and if protected in such a manner as not to become unduly reduced in numbers, will constitute a more valuable asset than the big game. This may not seem possible at first thought, but when it is remembered that many of the game birds, in addition to the song and insectivorous ones, exist the greater part of the year on grubs, worms, insects and weed seeds, it is readily seen what a valuable asset they are to the country. Then, each year a far greater number of sportsmen engage in shooting game birds than in hunting big game. In the event of a gun license being introduced a much larger direct revenue would be obtained from game birds than from big game.

BIG GAME SECURED.

The open season of 1909 was much more favourable for the big game hunter than either 1907 or 1908, as sufficient snow fell for tracking purposes during the whole season which was lengthened fifteen days by the amendments of 1909. The result of which was that a much greater number of animals were killed than during the two previous seasons.

Subsection 2 of section 19 of the Game Act provides that:

Each resident to whom a big game license shall have been issued in any year shall, immediately after the close of the open season for the killing or taking of the animals mentioned in Section 4 of this Act, return the license issued to him to the Department of Agriculture accompanied by an affidavit sworn before a justice of the peace, or a commissioner for taking affidavits, or a game guardian, showing the number of animals killed or taken by him during the period mentioned in such license.

The returns received under this section show that the following big game has been killed by residents during the past three years:

	1907	1908	1909
Deer.....	59	125	299
Antelope ..	49	45	89
Moose.....	14	37	86
Caribou ..			5
Mountain Sheep			40
Mountain Goat			38

This of course does not show the total game killed because in certain districts residents do not require a license and no doubt a number of animals were taken illegally.

REVENUE FROM GAME.

Branding of Game Heads.

	1907	1908	1909
Mountain Sheep	216	2	9
Mountain Goat	62		1
Elk ..	41	3	4
Moose ..	39	29	33
Caribou	16	6	6
Deer	142	15	26
Antelope	95	5	

The figures for 1907 include a very large proportion of the heads in the province at that time as it was at that period the Game Act was amended to provide for the branding of all heads before they could be sold.

Licenses and Permits.

	1907	1908	1909
Residents' Big Game Licenses.	146	529	1162
General Game Licenses	4	7	17
Bird Game Licenses			3
Trappers' Licenses (non-resident).	6	1	1
Guides' Licenses	6	3	7
Camp Helpers' Licenses	1	1	1
Game Dealers' Licenses	12	23	39
Permits to export	15	17	19
Permits to collect	6	6	16

During the year three young moose, the carcasses of one deer and one moose were confiscated to the Crown and were sold by tender for \$104.50.

CONVICTIONS AND FINES.

	1907	1908	1909
For hunting on Sunday		12	4
For hunting in close season		11	36
Buying and selling unbranded heads		8	6
Hunting without a license..		7	6
Selling without a license		7	7
Miscellaneous		4	2
Total of fines imposed	\$154 00	\$337 50	\$447 50

MONEYS COLLECTED.

	1907	1908	1909
Branding	\$2,158 00	\$240.00	\$314.00
Permits to collect	65 00	50 00	55.00
Permits to export	171 00	92 00	50.00
Game Dealers' Licenses	120 00	230 00	390 00
Camp helpers' Licenses	2 50	2 50	2 50
Guides' Licenses	30 00	15 00	35 00
Trappers' Licenses	40.00	40 00	10 00
Bird Game Licenses			45.00
General Game Licenses	93 00	175 00	425.00
Residents' Big Game	1,115 00	1,322 50	2,905.00
Fines	154.00	337.50	447.50
Confiscated Game			104.50
	\$3,948 50	\$2,504 50	\$4,783.50

GAME GUARDIANS.

The decision to furnish game guardians with a complimentary copy of "Rod and Gun" has been very much appreciated by them. This magazine is considered to be the best of its kind in Canada and furnishes reliable information in connection with the protection of game as well as other matters of interest to sportsmen and game protectionists. I would therefore recommend that all game guardians be again furnished with this publication for the year 1909.

TABLE I.—A RETURN SHOWING THE NUMBER AND VALUE OF THE FUR CATCH.

	FROM SMALL DEALERS			FROM WHOLESALE DEALERS & EXPORTERS	
	NO. OF SKINS	AVERAGE VALUE	TOTAL VALUE	NO. OF SKINS	TOTAL VALUE
Badger	329	\$ 98	\$ 325 55	182	...
Bear, Black	103	9 04	931.50	5,671	...
Bear, Brown	26	7 02	182.50	195	...
Bear, Grizzly	7	22 50	157 50	37	...
Bear, Cub	19	3 76	71 50	51	...
Beaver	85	4 43	377 25	8,495	...
Coyote	5,765	3 14	18,107.65	3,055	...
Fisher	16	7 43	119.00	155	...
Fox, Cross	19	6 97	132.50	445	...
Fox, Red	89	4 60	409.50	714	...
Fox, Silver	2	165 00	330.00	107	...
Lynx	307	14 37	4,414.50	1,176	...
Marten	157	9 75	1,530 70	7,378	...
Otter	5	15 20	76 00	539	...
Mink	369	4 63	1,709 75	2,562	...
Muskrat	142,334	27	39,115 41	288,654	...
Squirrel	51	05	2 60		...
Skunk	216	81	176 55	518	...
Weasel	5,889	27	1,609 16	14,643	...
Wolverine	4	7 75	31 00	495	...
Wolf	34	4 58	156.25	218	...
Deer	1	2 50	2 50		...
Moose	1	7 00	7 00	8	...
Caribou				125	...
Muskox				127	...
			\$70,233 27		\$315,433.10

Grand Total \$385,666.37

TABLE II.—SHOWING ANNUAL FUR CATCH.

	FROM SMALL DEALERS			FROM WHOLESALE DEALERS AND EXPORTERS		
	1907	1908	1909	1907	1908	1909
Badger.	595	360	329	310	252	182
Bear, Black.	285	117	103	1,660	2,173	5,671
Bear, Brown	83	24	26	342	300	195
Bear, Grizzly	28	10	7	127	40	37
Bear, Cub	44	9	19	100	70	51
Beaver.	750	..	85	2,542	1,514	8,495
Coyote	11,502	11,537	5,765	5,262	6,404	3,055
Fisher.	44	34	16	351	242	155
Fox, Cross	352	86	19	1,674	910	445
Fox, Red	1,111	254	89	4,662	1,638	714
Fox, Silver.	216	12	2	411	242	107
Lynx.	12,511	1,834	307	42,669	7,778	1,176
Marten	11,273	377	157	12,224	9,397	7,378
Otter	472	12	5	423	520	539
Mink	8,053	637	369	7,912	2,685	2,562
Muskrat	159,661	104,811	142,334	119,833	157,493	288,654
Squirrel	1	390	51			
Skunk	4,189	268	216	3,914	786	518
Weasel	3,256	4,984	5,889	5,491	7,523	14,643
Wolverine	451	7	4	446	642	495
Wolf	65	23	34	922	237	218
Deer.	357	16	1	30		
Moose.	17	1	1		24	8
Elk.	4				17	
Caribou						125
Muskox					1	127

To those who are interested in the protection of game the close seasons adopted in other places will no doubt be of interest. The following tables will give the desired information for the year 1909:

TABLE III.—OPEN SEASONS FOR GAME BIRDS IN VARIOUS STATES AND PROVINCES

STATES	Sharptailed Grouse (Prairie Chicken) Ruffed Grouse (Partridge)	DUCK	GOOSE AND SWAN
Maine	Sept. 15 to Dec. 1...	Sept. 1 to Jan. 1.	..
New Hampshire	Oct. 1 to Dec. 1	Oct. 1 to Feb. 1	
Vermont	Sept. 15 to Nov. 15	Sept. 1 to Jan. 1..	Sept. 1 to Jan. 1
Massachusetts	Oct. 15 to Nov. 15..	Sept. 15 to Jan. 1.	Sept. 15 to Jan. 1
Rhode Island.	Nov. 1 to Jan. 1	Aug. 15 to Apr. 1.	
Connecticut	Oct. 1 to Dec. 1	Sept. 1 to Jan. 1.	Sept. 1 to Jan. 1
New York	Oct. 1 to Dec. 1	Sept. 16 to Jan. 1.	Sept. 16 to Jan. 1
Pennsylvania.	Oct. 15 to Dec. 1	Sept. 1 to Apr. 10...	Sept. 1 to Apr. 10
Delaware	Nov. 15 to Jan. 1	Oct. 1 to Apr. 16	Oct. 1 to Apr. 16
Maryland	Nov. 1 to Dec. 24.	Nov. 1 to Apr. 10.	Nov. 1 to Apr. 10
Virginia	Nov. 1 to Feb. 1.	Oct. 15 to May 1.	Oct. 15 to May 1
West Virginia	Oct. 15 to Dec. 1	Sept. 1 to Apr. 20...	Sept. 1 to Apr. 20
Kentucky	Nov. 15 to Jan. 1	Aug. 15 to Apr. 1.	Aug. 15 to Apr. 1
Ohio	Nov. 15, 1913.	Sept. 1 to Jan. 1.	Sept. 1 to Jan. 1
Michigan..	Oct. 15 to Dec. 1.	Sept. 1 to Jan. 2.	Sept. 1 to Jan. 2
Indiana	Nov. 10 to Jan. 1	Sept. 1 to Apr. 15...	Sept. 1 to Apr. 15
Illinois	July 1, 1911	Sept. 2 to Apr. 15...	Sept. 2 to Apr. 15
Wisconsin.	Sept. 10 to Dec. 1...	Sept. 1 to Jan. 1.	Sept. 10 to May 1
Minnesota	Oct. 1 to Dec. 1.	Sept. 7 to Dec. 1...	Sept. 7 to Dec. 1
Iowa	Nov. 1 to Dec. 15.	Sept. 1 to Apr. 15...	Sept. 1 to Apr. 15
Missouri	.	Sept. 15 to May 1.	Sept. 15 to May 1
Kansas	Sept. 15 to Oct. 15.	Sept. 1 to Apr. 15...	Sept. 1 to Apr. 15
Nebraska	Oct. 1 to Dec. 1	Sept. 15 to Apr. 6...	Sept. 15 to Jan. 6
South Dakota	Sept. 10, 1911	Sept. 10 to Apr. 10...	Sept. 10 to Apr. 10
North Dakota	Sept. 7 to Nov. 2.	Sept. 7 to Dec. 16.	Sept. 7 to Dec. 16
Montana	Oct. 1 to Nov. 1	Sept. 1 to Jan. 1.	Sept. 1 to Jan. 1
Wyoming	Sept. 25 to Dec. 1....	Sept. 1 to May 1.	Sept. 1 to May 1
Colorado	Sept. 10 to Oct. 11.	Sept. 10 to Apr. 16..	Sept. 10 to Apr. 16..
Florida		Oct. 1 to Apr. 1	..
Alabama	Dec. 1, 1912	Sept. 1 to Mar. 15..	Sept. 1 to Mar. 15
Mississippi		Sept. 1 to Mar. 1..	Sept. 1 to March 1
Tennessee	Nov. 1 to Mar. 1.	Oct. 1 to Apr. 15	Oct. 1 to April 15
Louisiana		Oct. 1 to Mar. 1	Oct. 1 to March 1
Oklahoma		Aug. 15 to May 1	Aug. 15 to May 1
New Mexico	Oct. 1 to Jan. 1.		
Arizona	Oct. 15 to Feb. 1		
California	Sept. 1, 1911.	Oct. 1 to Feb. 15	
Nevada	Sept. 15 to Mar. 1..	Sept. 15 to Mar. 1.	
Utah	March 11, 1913	Oct. 1 to Jan. 1.	Oct. 1 to Jan. 1
Idaho	Aug. 15 to Dec. 1.	Sept. 1 to Mar. 1 ..	Sept. 1 to March 1
Washington	Sept. 1 to Jan. 1.	Sept. 1 to Mar. 1..	Sept. 1 to May 1
Oregon	Oct. 15 to Nov. 15...	Oct. 15 to Feb. 15	Oct. 1 to March 1
Alaska	Sept. 1 to Mar. 2..	Sept. 1 to Mar. 2..	Sept. 1 to March 2
PROVINCES			
British Columbia..	Sept. 15 to Apr. 1....	Sept. 15 to Apr. 1..	
Yukon	Sept. 1 to Mar. 15.	Aug. 10 to June 1.	Aug. 10 to June 1
Alberta	Oct. 1 to Nov. 1	Aug. 23 to Jan. 1	
Saskatchewan	Sept. 15 to Dec. 1...	Sept. 1 to Jan. 1.	Sept. 1 to Jan. 1
Manitoba	Oct. 1 to Oct. 20.	Sept. 1 to Dec. 1....	
Ontario	Sept. 15, 1910	Sept. 1 to Jan. 1.	Sept. 15 to May 1
Quebec	Sept. 1 to Dec. 15..	Sept. 1 to Mar. 1..	
New Brunswick	Sept. 15 to Dec. 1..	Sept. 15 to Dec. 2..	Sept. 15 to Dec. 2
Nova Scotia.	Oct. 1 to Nov. 1	Sept. 1 to Mar. 1.....	
Prince Edward Isl'd	Oct. 1 to Dec. 1	Aug. 20 to Jan. 1	Sept. 15 to May 10
Newfoundland	Oct. 1 to Dec. 15	Oct. 1 to Dec. 15	

TABLE IV.—OPEN SEASON FOR BIG GAME IN VARIOUS STATES AND PROVINCES, 1909.

STATES	DEER	ELK	MOOSE	ANTELOPE	SHEEP AND GOAT
Maine	Oct. 1—Dec. 15.		Oct. 15—Dec. 1.		
New Hampshire	Oct. 1—Dec. 1.				
Vermont	Oct. 25 to 31 . . .				
Massachusetts	To Nov. 1, 1910 . .				
Connecticut	To June 1, 1911 . .				
New York	Sept. 16 to Nov. 1.				
New Jersey	To Nov. 10, 1909 . .				
Pennsylvania	Nov. 15 to Dec. 1.				
Virginia	Sept. 1 to Dec. 1.				
West Virginia	Oct. 15 to Dec. 1.				
Kentucky	Sept. 1 to March 1.				
Michigan	Nov. 10 to Dec. 1.	To June 16, 1913			
Illinois	To June 15, 1919 . .				
Wisconsin	Nov. 11 to Dec. 1.				
Minnesota	Nov. 10 to Dec. 1.		Nov. 10 to Nov. 30.		
Iowa					
Missouri	Nov. 1 to Jan. 1 . .				
South Dakota	Nov. 1 to Dec. 1 . .	Nov. 1 to Dec. 1			
North Dakota	Nov. 10 to Dec. 1.				
Montana	Oct. 1 to Dec. 1 . .	Oct. 1 to Dec. 1			
Wyoming	Sept. 25 to Dec. 1.	Sept. 25 to Dec. 1.			
Colorado	Oct. 1 to Oct. 11 . .		To Sept. 15, 1912		
North Carolina	Oct. 1 to Feb. 1 . .				
South Carolina	Sept. 1 to Jan. 1 . .				
Georgia	Sept. 1 to Jan. 1 . .				
Florida	Nov. 1 to Feb. 1 . .				
Alabama	Nov. 1 to Jan. 1 . .				
Mississippi	Nov. 15 to March 1 .				
Tennessee	To Oct. 1, 1911 . .				
Arkansas	Sept. 1 to Feb. 1 . .				
Texas	Nov. 1 to Jan. 1 . .				
Oklahoma	Nov. 1 to Dec. 1 . .				
New Mexico	Oct. 15 to Nov. 16 .				
Arizona	Sept. 15 to Dec. 1 . .				
California	July 15 to Nov. 1 . .				

Nevada..	Sept. 15 to Nov. 15	Sept. 1 to Dec. 1.	Sept. 15 to Nov. 15	Sept. 15 to Nov. 15.
Utah.....	Oct. 15 to Nov. 15.			To Mar. 23, 1911.
Idaho.....	Sept. 15 to Dec. 1.			Sept. 1—Dec. 1.
Washington	Sept. 15 to Dec. 15.			Sept. 15—Nov. 1.
Oregon.....	Aug. 1 to Nov. 1.			.....
Alaska.....	June 1 to Dec. 15.			Aug. 20—Jan. 1.
PROVINCES				
British Columbia.	Sept. 1 to Dec. 15.	Sept. 1 to Jan. 1.	Sept. 1 to Jan. 1.	Sept. 1—Nov. 15.
Yukon.....	Sept. 1 to March 1	Sept. 1 to March 1	Sept. 1 to March 1	Sept. 1—March 1.
Alberta.....	Nov. 1 to Dec. 15.	To Nov. 1, 1910.	Nov. 1 to Dec. 15.	Sept. 1—Oct. 15.
Saskatchewan	Dec. 1 to Dec. 15	Dec. 1 to Dec. 15	Dec. 1 to Dec. 15	
Manitoba....	Dec. 1 to Dec. 15	Dec. 1 to Dec. 15	Dec. 1 to Dec. 15	
Ontario.....	Nov. 1 to Nov. 16..	....	Oct. 16 to Nov. 16	
Quebec.....	Sept. 1 to Jan. 1.		Sept. 1 to Jan. 1	
New Brunswick	Sept. 15 to Dec. 1....		Sept. 15 to Dec. 1	
Nova Scotia..	To Oct. 1, 1912		Sept. 16 to Nov. 16	
Newfoundland.	.....		To Jan. 1, 1912	

On the 31st of December there were 288 game guardians, being an increase over 1908 of 13. They have been arranged by constituencies as follows:

GAME GUARDIANS BY CONSTITUENCIES.

Alexandra.

Walter Avery	Vermilion.
Jos. Heathcote	Kitscoty.
D. H. Moore	Islay.

Athabasca.

Wm. Biggs	Fort McMurray.
Peter Loutit	Fort Chipewyan.

Camrose.

J. G. Dempsey	Heather Brae.
A. W. Fleming	Ohaton.
R. W. Logan	Camrose.
Wm. Mohler	Round Hill.
A. Mickleburgh	Spilstead.
Jas. Price	Heather Brae.
H. G. Pithouse	New Sarepta.
Chas. Spilstead	Spilstead.
O. T. Wilson	Camrose.

Calgary.

Neil Brodie	Calgary.
S. E. Beveridge	Calgary.
D. W. Campbell	Calgary.
G. M. Grahame	Calgary.
A. O. Wheeler	Calgary.

Cardston.

John Geo. Brown	Waterton Mill.
A. A. Caldwell	Caldwell.
Jno. Sloan	Kimball.

Clareholm.

Travis Bagley	Meadow Creek.
Wm. Lyndon	Lyndon.

Cochrane.

E. H. Abell	Cochrane.
E. L. Bell	Dog Pound.
Ernest Bell	Lochend.
Percy Bassett	Cochrane.
J. A. W. Fraser	Jumping Pond.
Wm. Graham	Dog Pound.
G. E. Goddard	Cochrane.
Chas. Grayson	Cochrane.
W. Hutchison	Cochrane.
Geo. W. Johnston	Cochrane.
L. H. Kennerly	Glenbow.
R. W. Meiklejohn	Cochrane.
Geo. McLeod	Crossfield.
D. J. McKay	Crossfield.
R. G. Robinson	Calgary.
Geo. A. Reid	Cochrane.
D. W. Skinner	Sampsonston.
E. V. Thomson	Dog Pound.

Didsbury.

Gordon Henson	Sterlingville.
John McLeod	Sunnyslope.
Wm. McIntyre	Didsbury.
Jas. Russell	Rosebud.
Robt. Scott	Carstairs.
Edwin Godden	Tapscot.

Edmonton.

B. F. Blackburn	Edmonton.
Geo. Bulmer	Edmonton.
W. H. Cooper	Edmonton.
J. V. E. Carpenter	Edmonton.
Jno. Fielders	Edmonton.
J. O'Neill Hayes	Edmonton.
J. B. Mercer	Edmonton.
Martin L. Miller	Edmonton.
W. S. Robertson	Edmonton.
H. E. Rudd	Edmonton.
Hugo Turnbull	Edmonton.
C. Wilcox	Edmonton.

Gleichen.

B. H. Bunney	Gleichen.
David Brereton	Red Deer, Gleichen.
W. W. Brown	Strathmore.
Wm. C. Davey	Airdrie.
Peter Eide	Brooks.
Geo. B. Hull	Strathmore.
Dan. Martin, Jr	Rosebud Creek.
J. C. Oswald	Crossfield.
J. A. Wilson	Red Deer, Gleichen.
W. J. Ball	Brooks Station.

High River.

Wm. A. Dunlop	High River.
Wm. H. Estcourt	High River.
John A. Grant	Lineham.
Romain Gervais	Loma.
J. L. Sexsmith	High River.
S. J. Brown	Aldersyde.

Innisfail.

F. W. Archer	Innisfail.
Jas. Faris, Jr	Trenville.
B. Hunford	Markerville.
R. Milligan	Pine Lake.
H. M. Mustard	Markerville.
R. Morton-Bell	Trenville.
Edmund Robinson	Stauffer.
W. H. Robinson	Stauffer.
J. K. Robinson	Little Red Deer, Innisfail.
Wm. L. Scott	Markerville.

Lacombe.

T. A. Brereton	Valley City.
A. J. Boyd	Lacombe.
Jos. Capron	Blackfalds.
J. R. Carter	Morningside.
J. C. Carratt	Bentley.
Sidney Godfrey	Lacombe.
Jas. P. Kent	Lacombe.
W. B. McPherson	Bentley.
Chas. Pinnell	Alix.

Walter Parlbj	.. Alix.
Wm. Smith.	.. Lockhart.
Fred Stephens	.. Lacombe.
J. E. Triplett	.. Forshee.
W. Waghorn	.. Blackfalds.
W. E. Wells	.. Whitebrush.
C. D. Aldridge	.. Wittenburg.

Lac Ste. Anne.

D. Musselman	.. Onoway.
J. V. Maloney	.. Roydale.
Frank Pegrum	.. Wabamun.
W. K. Shields	.. Wabamun.
Henry White	.. Wabamun.

Leduc.

E. Alpaugh	.. Conjuring Creek.
A. R. Bush	.. Leduc.
W. F. Blades	.. Leduc.
Chas. Blackwood	.. Templeton.
Jos. Brissard	.. Beaumont.
E. Clifford	.. Conjuring Creek.
Jonah Erwin	.. Leduc.
F. B. Green	.. Bonnie Glen.
Wm. Hudson	.. Buford.
Haydon Newton	.. Wetaskiwin P.O.
E. O'Mara	.. O'Mara.
Nels Peterson	.. Millet.
Nels A. Sanders.	.. Thorsby.

Lethbridge City.

H. Case	.. Lethbridge.
H. P. Withers.	.. Lethbridge.

Lethbridge District.

Geo. LaRose	.. Monvel.
Jas. Robinson	.. Josephsburg.

Medicine Hat.

J. H. G. Bray	.. Medicine Hat.
Geo. Murray	.. Seven Persons.
Wm. Rutherford	.. Medicine Hat.

Macleod

John Cochlin	.. Macleod.
G. Pearson.	.. Standoff.
P. J. Roberts	.. Macleod.

Nanton.

T. B. Stanford	.. Stavely.
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Okotoks.

Frank C. Austin	.. DeWinton.
Eric W. Buckler	.. Black Diamond.
E. G. May	.. R. R. No. 2, Calgary

Olds.

Sam. Arnold.	.. Bowden.
Thos. Byron.	.. Eagle Hill, Olds.
A. C. Distman	.. Trochu Valley.
Jas. Jensen	.. Knee Hill Valley.
Swan Starken.	.. Garrington.

Colin Thomson..	Red Lodge.
Evan Thomson	Red Lodge.

Pakan.

T. Mennier	Mosside.
G. W. Shortridge	Caskeyville.
Louis Nap. Despins	Brosseau.

Peace River.

W. S. O. English	Spirit River.
Jno. P. Gaudet	Peace River Crossing.
Robt. Jones	Fort Vermilion.
Wm. John Lambert	Fort Vermilion.
Alex. Monkman	Grand Prairie.
Duncan McDonald	Dunvegan.

Pembina.

T. A. Clark	Pembina.
F. Cosens	Sion.
John McInnes	Picardville.
Jos. R. Romeo	Peavine.

Pincher Creek.

John Brown	Pincher Creek.
R. B. Clarkson.	Pincher Creek.
L. Garrault	Pincher Creek.
Ernest Hillier	Twin Butte.
A. Hughson	Lundbreck.
Geo. E. Porter	Livingstone.
Wesley Shannon.	Twin Butte.
J. W. T. Swinney.	Yarrow.
T. G. Wilson	Livingstone.
D. F. W. Willock	Pincher Creek.

Ponoka.

B. F. Craig,	Bluff Centre.
Jas. Evertz	Wittenburg
Louis Fleming	Ponoka.
A. B. Fraser	Ponoka.
A. D. Horn	Manfred.
Jno. Schnoor	Ponoka.
W. N. Shafit	Ponoka.
P. R. Stewart	Earlville.
A. Davidson	Buckhorn.
J. H. Beeley.	Rimbey.

Red Deer

Richard Bleay	Red Deer.
W. H. Cottingham.	Red Deer.
F. B. Fisher	Red Deer.
J. S. Kendall	Red Deer.
C. P. Mellor	Red Deer.
Jas. Webb.	Erskine.
Jos. Wallace	Red Deer.

Rocky Mountain.

Adam M. Baptie.	Exshaw.
H. P. E. Francis	Pekisko.
D. McDougall	Banff.

Sedgewick.

C. J. Brady	Leopoldville.
A. A. Burnham	Viking.
L. M. de Chauny	Caskeyville
J. W. DuBord.	Hardisty.

Chas. F. Lyall	Strome.
L. B. Matusch	Amisk.
J. S. McDonald	Sedgewick.
F. de Pass	Strome.
Elmer Reid	Harland.
T. S. Robson	Killam.
Pierre de Soucy	Talbot.
Norman Stickler	Brownfield.
M. H. Ward	Sedgewick.

St. Albert.

Wm. Fitzgerald	St. Albert.
Patrick Kelly	St. Albert.
Wallace Noyes	St. Albert.
Camille Verstraete	Villeneuve.

Stettler.

E. W. Barrett	Kanata
Henry Brace	Notre Dame de Savoy.
H. D. Critchley	Red Willow.
Chas. E. Ducloy	Content.
J. C. Grose	Erskine.
W. B. Gray	Stettler.
W. W. Harrington	Ewing.
Gus. Lensman	Mayville.
J. C. Myers	Foreman.
S. Norton-Taylor	Gleichen.
G. S. Wilson	Stettler.
J. C. Trenaman	Hand Hills.

Stoney Plain.

J. B. Butchart	Stoney Plain.
Jno. Bennett	Mewassin.
Chas. Currie	Graminia.
S. J. Deans	Brightbank.
E. A. Groat	Spruce Grove Centre.
M. L. Hoffman	Mewassin.
S. C. Hagen	Winterburn.
Henry Kuhl	Goldenspike.
V. J. MacGillycuddy	Stoney Plain.
Dan. McDonald	Mewassin.
G. Sutherland	Spruce Grove.

Strathcona.

F. S. Ellett	Sandy Lake, Strathcona.
D. Grummett	Cooking Lake.
Chas. Helpenstine	East Clover Bar.
James Inkster	Strathcona.
Hamilton Lackey	East Clover Bar.
J. E. Smith	Strathcona.
W. H. Stephens	Strathcona.

Sturgeon.

R. Bailey	Namoo.
Jno. A. Edgson	Edison.
A. S. Florence	Bon Accord.
W. R. Gibbons	Battenburg.
Robt. June	Namoo.
Jno. Kennedy	Edmonton P.O.
Arthur Lucas	Clyde.
John Milligan	New Lunnion.
Wm. Mason	Bon Accord.
C. McLaughlin	Namoo.
John Russell	Athabasca Landing.
O. T. Tratt	Lamoureux.
J. R. Trotter	Lamoureux.
Wm. E. Whiteley	Landing Road, Edmonton
W. W. Watt	Northbank.

Vegreville.

Geo. Cookson, Jr	Tofield.
Lacy Gully	Vegreville.
A. H. George	Lavoy.
E. R. Hallberg	Ross Creek.
G. A. Loades	Harland.
Jos. Lavoy	Lavoy.
Hubert Morton	Lavoy.
Jos. A. Norn	Logan.
C. C. Roberge	Logan
Jno. Stonehocker	Lavoy.
A. S. Shandro	Shandro.
J. A. Stewart	Beaver Lake, Mundare.
John Trimble	Vegreville.
Basil White	Bittern Lake.
Andrew Watson	Chipman.
E. H. Wynn-Mackenzie	Warwick.
John Borwick	Vegreville.
Augustus Gladena	Tofield.
A. W. Hunt	Tofield.

Vermilion.

W. H. Armitage	Mannville.
Noah Booher	Mannville.
S. W. Calvert	Chipman.
J. Graham	Vermilion.
A. R. Moody	Beaver Lake.
H. G. Morris	Mannville.
Archie McLean	Mannville.
D. L. Phillbrick	Myrnam.
N. Vanarsdalen	Vermilion Valley.
F. V. West	Vermilion.
Wm. McCormick	Tyrole.

Victoria.

Johan Krebs	Fort Saskatchewan.
J. A. Libbey	Fort Saskatchewan.
E. Simmons	Fort Saskatchewan.
A. W. Coxford	Lamont.

Wetaskiwin.

A. H. Parnard	Wetaskiwin.
A. R. Dickson	Wetaskiwin.
R. R. Cherrington	Wetaskiwin.
R. T. Hawkins	Wetaskiwin.
C. H. Swanson	Wetaskiwin.
A. G. Wood	Wetaskiwin.
John G. Wilcher	Lewisville.
E. C. Young	Millet.

II.—PREVENTION OF PRAIRIE FIRES.

The Prairie Fires Ordinance is one of the enactments of the late Legislative Assembly of the North-West Territories, with various amendments, and I regret to say that its provisions are not being complied with by the residents of the province in a manner to reflect credit on them. It is one of the enactments framed for the protection of life and property; and it is to be regretted that during the latter part of the past year violation of its provisions resulted in the loss of several lives as well as a vast amount of property. If proper care had been exercised this need not have happened. The loss to the province has been enormous. It has placed many persons in a position from which it will require considerable time to recover.

Many bitter complaints have been received with respect to the carelessness of railways in not taking the necessary precautions to prevent the occurrence of fires upon their right of way which are caused by the sparks from their engines, or in providing the necessary fireguards to prevent such fires from running at large and spreading over the country.

The greater number of fires are kindled by settlers who wish to burn brush, stubble or other rubbish which could, in many cases, with advantage to themselves, be permitted to decompose. In any case the destroying of such rubbish could be left until all danger of fire running was past, or until such time as a proper fireguard was constructed.

It is a well recognized fact that many persons deliberately kindle fires for the purpose of guarding property or destroying brush and clearing land without taking any precautions to prevent such fires from running off their own land, thereby endangering the lives and property of their neighbors. Any person guilty of an offence of this kind should suffer the full penalty provided for in the Ordinance. The plea of ignorance should rarely, if ever, be accepted by justices of the peace as this Department annually distributes thousands of copies of the Ordinance and posters warning the public against setting out fire without first taking the necessary precautions.

The penalties imposed and the number of convictions secured during 1907, 1908 and 1909 as shown by reports received are given below and although the average penalty imposed in 1909 is not as heavy as that of 1907 yet it shows an improvement over 1908. No doubt a number of convictions were secured and the party convicted allowed to go on suspended sentence. Such cases of course are not reported. The penalties imposed range from one to one hundred dollars.

CONVICTIONS			
	<i>No. of Convictions Reported</i>	<i>Total Fines</i>	<i>Average Fine</i>
1907.	33	\$ 741 00	\$22.45
1908.	105	1,570 00	14 95
1909	94	1,796.00	19 10

On the 31st of December, 1908, there were 166 fire guardians and at present there are 178, who have been specially appointed to enforce the provisions of The Prairie Fires Ordinance. As they are expected to give their services gratis in the interests of their district I would suggest that the policy of furnishing them with a periodical, as was done during the past year, be continued during the coming year.

The following is a list of the fire guardians in the province arranged by constituencies:

FIRE GUARDIANS BY CONSTITUENCIES.

Alexandra.

Ben. Roberts. Kitscoty.
T. F. Sheridan. Wainwright.

Calgary.

D. Carter. Calgary.
Dan. W. Campbell. Calgary.
G. M. Grahame Calgary.
Geo. Johnston. Calgary.
Sidney H. Moss Calgary.

Geo. Murdoch	Calgary.
Walter Moss	Calgary.
J. G. McIntosh	Calgary.
R. W. McIntyre	Calgary.
W. A. Thompson	Calgary.
A. O. Wheeler	Calgary.
W. D. Woolliams	Calgary.

Camrose.

Jno. Barber	Iron Creek, Spring Lake.
Geo. Bowie	Ferry Point.
Francis J. Hodgson	New Sarepta.
Chas. Johnston	Edberg.
Ernest Roper	Bittern Lake.

Cochrane.

E. Bell	Bradbourne.
W. H. Croxford	Airdrie.
Walter B. Elliott	Cochrane.
Herbert Fry	Cochrane.
Gilbert E. Goddard	Mitford.
Wm. Grahame	Bradbourne.
M. McPhee	Beaver Dam, Cochrane.
J. F. McCorkel	Morley.
R. I. Nixon	Crossfield.
Geo. A. Reid	Cochrane.
Johnston Stevenson	Airdrie.
Jas. A. Sutherland	Crossfield.
Wm. Urquhart	Crossfield.

Claresholm.

W. A. Lyndon	Lyndon.
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Cardston.

Percy G. Ashe	Coutts.
V. S. Shaw	Cardston.

Didsbury.

Arthur Evans	Three Hills.
Jno. McLeod	Sunnyslope.
J. D. Schantz	Didsbury.

Edmonton.

J. O'Neill Hayes	Edmonton.
Arch. Mitchell	Edmonton.
James Tough	Edmonton.
Hugo Turnbull	Edmonton.

Gleichen.

W. W. Brown	Strathmore.
John Clark, Jr.	Gleichen.
O. G. Colquhoun	Gleichen.
John B. Code	Dorothy.
Thos. Hicks	Lathom.
Douglas Hardwick	Snake Valley, Gleichen.
Jas. Lawson	Dorothy.
A. S. Maloney	Dunbow.
Dan. Martin, Sr	Gleichen.
L. McKinnon	Langdon.
Alex. Strange	Gleichen.
Harry Scoot	Gleichen.
J. G. Savage	Dorothy.

High River.

Geo. H. T. Carle	Pekisko.
Romain Gervais	Loma.

W. E. Holmes High River.
 Wilfred B. Thorne Aldersyde.

Innisfail.

R. P. Alford Pine Lake.
 Wm. Shirley Bitton Knee Hill Valley, Innisfail.
 Count L. M. de Chauny Innisfail.
 Harry F. Collins Pine Lake.
 Geo. Duncan Innisfail.
 Geo. W. Ellis Innisfail.
 Geo. Fleming Penhold.
 Fred W. Gaetz Pine Lake
 Robt. Milligan Innisfail.
 R. Morton-Bell Trenville.
 H. M. Mustard Markerville.
 Robt. Wynn Knee Hill.

Lethbridge City.

Duncan Duff Lethbridge
 Jas. Dixon Fuller Lethbridge.
 Edward Kennedy Lethbridge.
 Adam Link Lethbridge.
 A. C. Nash Lethbridge.

Lethbridge District.

E. Cox Grassy Lake.
 Warren Depew Raymond.
 Jno. Furman Grassy Lake.
 E. Kenny Pothole, Lethbridge.
 C. McCarty Raymond.
 O. H. Otott Optic.
 D. K. Slawson Burdette.
 Frank O. Steed Stirling.

Leduc.

Wm. Blocker Leduc.
 Henry Bradner Leduc.
 Frank Clifford Conjuring Creek.
 S. W. Fetherston Leduc.
 S. H. Johnson Beaumont.
 Chas. Mortimer Leduc.
 J. McEwan Conjuring Creek.
 C. H. Ohrn Ohrnville.
 Nels A. Sanders Ohrnville.

Lacombe.

Ed. Burns Lamerton.
 Jas. Burgess Lamerton.
 Jos. Capron Blackfalds.
 W. E. Grose Clive.
 Horace Hickling Alix
 Carl Hilstad Bentley.
 H. A. Murphy Lacombe.
 S. W. Paisley Canyon.
 Chas. Pinnell Alix.
 Albert T. Richards Lacombe.
 James Tees Clive.
 W. E. Tees Tees.
 Jas. L. Walters Tees.
 F. H. Whiteside Lamerton.

Lac Ste. Anne.

D. Musselman Onoway.
 H. White Wabamun.

Medicine Hat.

Wm. Borthwick.	Medicine Hat.
W. H. Hargrave.	Walsh.
Geo. Markham.	Medicine Hat.
J. D. McLaughlin.	Medicine Hat.

Macleod.

Wm. F. Cochrane.	Macleod.
C. W. E. Gardner.	Macleod.
Fred T. Maryfield.	Macleod.

Nanton.

J. D. Narrish.	Nanton.
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Olds.

C. Distman.	Olds.
Raymond A. Kembry.	Olds.
C. Wm. Moore.	Tolman.
Chas. T. Wood.	Red Lodge.
W. T. Wyndham.	Huxley.

Okotoks.

A. E. Bannister.	Davisburg.
J. A. W. Fraser.	Jumping Pond.
Chas. W. Mickle.	Spring Bank.
A. G. Wooley-Dod.	Midnapore.

Ponoka.

O. C. Ravensburg.	Asker.
Robt. E. Tyner.	Ferrybank, Ponoka.

Pincher Creek.

Alf. T. Connolly.	Pincher Creek.
W. T. Eddy.	Cowley.
F. W. Godsall.	Cowley.
Geo. Porter.	Livingstone.
Harold J. Smith.	Pincher Creek.

Pakan.

Lewis Thompson.	Pakan.
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Red Deer.

Robt. E. Fiske.	Hillsdown.
F. B. Fisher.	Red Deer.
Fred Gaetz.	Red Deer.
Thos. Hoskin.	Red Deer.
Angus Martin.	Red Deer.
—, McKuchney.	Red Deer.
J. F. Reinholt.	Red Deer.
Jno. Wilson.	Evarts.

Rocky Mountain.

Jas. B. Bruneau.	Blairmore.
Wm. H. Brewster.	Banff.

St. Albert.

W. S. Hughson.	Manawan.
Thos. Hall.	Manawan.
Camille Verstraete.	Villeneuve.

Stony Plain.

H. H. Knapp.....	Winterburn.
Chas. Mills.....	Inga.
J. L. McDonald.....	Stony Plain.
Ed. Steffler.....	Spruce Grove Centre.

Stettler.

J. F. DuBois.....	Hand Hills via Stettler
Jas. Ellwood.....	Gopher Head.
Gus. Lensman.....	Mayville.
B. Lockwood.....	Hand Hills via Stettler.
N. A. Lund.....	Hand Hills, via Stettler.
Wm. W. Peters.....	Notre Dame de Savoy.
Geo. W. Patterson.....	Red Willow.

Sedgewick.

E. W. Brightland.....	Talbot.
W. Eastmead.....	Casleyville.
W. E. Reed.....	Casleyville.
Ludwig H. Seeman.....	Vallejo.
N. B. Weffer.....	Casleyville.

Sturgeon.

W. R. Gibbons.....	New Lunnnon.
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Strathcona.

Chas. C. Ellet.....	Strathcona.
Geo. McAllister.....	Strathcona.
Ed. Townsend.....	Strathcona.

Vegreville.

John Borwick.....	Whitford.
Silas Richardson.....	Whitford.

Vermilion.

W. C. Talbot.....	Irma.
A. M. Weir.....	Mannville.

Victoria.

Chas. E. Bevington.....	Fort Saskatchewan.
Henry Belcher.....	Wostok.
Jos. Dzivenka.....	Wostok.
Jno. Halkow.....	Wostok.
David McGall.....	Star.
W. L. Simmons.....	Fort Saskatchewan.

Wetaskiwin.

Haydon Newton.....	Wetaskiwin.
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Respectfully submitted,

BENJ. LAWTON,

Chief Game and Fire Guardian

5.—REPORT OF POULTRY SUPERINTENDENT.

SIR,—I beg to submit the annual report of the Poultry Branch of the Department for the year 1909.

INTEREST IN POULTRY RAISING.

I am pleased to state at the outset that there has been a more pronounced interest taken in poultry raising throughout the province during the year 1909 than in any previous year. It would appear that the institute and other educational work that has been carried on now for a number of years is beginning to bear fruit, and poultry raising is gradually coming to occupy the place it ought to on every farm. The poultry bulletin issued in 1907 has been an important factor in arousing interest. The call for this bulletin is still very great, being more numerous this year than at any time since publication. As the first issue of the bulletin is almost exhausted I have been compiling material for a revision at an early date so as to be ready when the present supply is exhausted. It will be brought up to date with new matter and illustrations. I am certain it will be of general interest and in keeping with the advancement made in poultry keeping in the province during the past three or four years.

As illustrating the measure of success attending poultry raising I give the results obtained by a correspondent near Lacombe, who states that he started in the spring of this year with 160 1908 pullets. He hatched 700 chickens, the last coming out on May 24th. On August 15th there were 560 of the 700 alive. He had been unfortunate in losing the rest or they had been killed by hawks. He fed the chicks cracked wheat, crushed oats and milk; later, whole wheat in hoppers. This gentleman purchased a number of fattening crates from the Department and fleshed, killed and marketed his surplus stock in the manner recommended by the poultry bulletin.

I find on enquiry of the dealers that while there is still a large quantity of unsatisfactory poultry being marketed, there is a decided improvement in the class of poultry offered. While there has been more general interest taken in the production of poultry and eggs for market, and the output has greatly increased, the demand for these products has been correspondingly great. I am informed by the larger dealers that they are still importing poultry products by the carload and even by the train load.

While there has been a noticeable advancement in commercial lines, the improvement is equally as great in fancy and exhibition poultry. Previous to 1908 there had been but two winter poultry shows in the province, at Edmonton and Lethbridge. During the year poultry shows were held at Taber, Magrath, Lethbridge, Calgary and Edmonton. Other districts have recently organized poultry associations and arrangements are being made to hold shows during the winter. The poultry shows previous to this had entries to the extent of some two or three hundred, while at a show held in Calgary during the second week of December there were 856 entries. The quality of the birds is also greatly improved.

The same general increase of interest is noticed in connection with the poultry exhibits at the fairs held by the agricultural societies.

When the educational work attending the fairs was first undertaken in 1906 a poultry exhibit was to be found at only a few fairs. The quality in many cases was such that one could hardly distinguish the breed the birds represented without consulting the entry ticket. Although there are now many more fairs an excellent showing of poultry of a good quality may be seen at practically every one of them. A more convincing proof of the interest that has been raised is that a large number of agricultural fairs have made special provision for their poultry exhibits by constructing suitable houses. In order to assist in the proper displaying of poultry at the fairs, somewhat late in the season a circular letter was sent out to the associations whose exhibitions had not been held stating that the Department was prepared to supply metal coops to those desiring same at a reasonable rate. The offer was taken advantage of by several of the societies. Should the same offer be made in good time another year it is quite possible that many others will take advantage of it.

WINTER PRODUCTION OF EGGS.

While addressing institute meetings throughout the province in 1906 I found that there were practically no eggs produced in winter. Many thought winter eggs an impossibility. While attending the institute meetings last winter I found on enquiry that one or more at each meeting were securing a supply of winter eggs. As an illustration of what is being done I may say that a gentleman at Lloydminster with 24 pullets produced in the months of December, January, February and March, 293, 472, 357 and 479 eggs respectively, making a total of 1,601 in 119 days, or an average of 13.45 eggs per day from the 24 birds for the four winter months.

BUILDING UP LAYING STRAINS.

I also find that more attention is now being given to the matter of selection in building up laying strains. Quite a number have adopted the trap nest system of selection and have found the records interesting. A lady writing from Medicine Hat on December 28th, in speaking of her poultry, said in part: "I have been trap nesting for two years and now breed only from my best layers. I do not breed from a hen that does not produce at least four dollars worth of eggs during the year."

The following is the record of eight birds trap-nested by this lady, and the amount of revenue from each bird:

TABLE SHOWING VALUE OF TRAP NEST.

HEN NO.	NUMBER OF EGGS LAID PER MONTH.												Total No. Eggs	Revenue		
	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.			Oct.	Nov.
Pullet No. 24	27	10	21	27	10	24	25	21		22	20	20			227	\$7 20
Pullet No. 37	9	19	16	19	17	25	19	5	10						139	4 65
Pullet No. 10			9	25	21	25	22	2	6	4	15				129	4 20
Pullet No. 65			3	11	18	22	17	14	15	15	15	16	12		158	4 70
Pullet No. 11					14	21	20	18	10	14	16	14	4		131	3 65
Hen No. 9				6	11	9	22	22	10	20	17	20	15		152	4 25
Hen No. 63			8	17	7	24	23	23	15	18	12	12	9		168	4 85
Hen No. 67			18	10	13	19	16		15	11	10	13			125	3 75

CRATE FATTENING.

During the year there were many requests that the Department continue operating the fattening stations as in 1906-07. This work was discontinued with the expectation that once its successful operation had been demonstrated it would be taken up locally and continued. To assist in this I secured a satisfactory market for poultry either alive or dressed. This market was only taken advantage of in a few cases. The fattening stations were not operated again last year by the Department. The only one in operation locally was at Clive where Mr. T. A. Brereton conducted a fattening station in connection with his creamery. In reporting his fattening work for 1909 Mr. Brereton states that he handled more than double the number of birds he did in 1908. His report is as follows:

Total number of fowl fattened, 1,016. Total weight, 4,837 lbs.
Average net price to farmers, live weight, 10c. per lb.
Average net price received for fowl, 12½c. per lb.
Total number of chickens fattened, 510. Total weight, 1,920 lbs.
Average net price paid to farmers, live weight, 12¾c.
Average net price received for chicken, 14¼c.
Total amount paid to patrons, \$727.50.

It will be noticed by this report that Mr. Brereton in undertaking the fattening work on his own responsibility was able to pay more per pound for chicken than was paid by the Department in their demonstration work of 1906-07.

INSTITUTE MEETINGS.

In connection with the general educational work of the Department for the year some 50 or 60 institute meetings were held throughout the province. These meetings were more largely attended than in previous years. I found that those engaged in poultry raising were securing more satisfactory results than they had formerly and were now interested in securing a fuller knowledge of many phases of poultry raising.

In addition to the regular institute work a short course of general instruction was given covering the principles of poultry raising from a practical standpoint at the Short Course School at Lacombe.

In the office work during the past year there has been a larger correspondence than formerly, many enquiries being received from outside points, asking for information relative to coming to Alberta to engage in poultry keeping. Others for information on districts in which to locate and plans of poultry houses and plants, also for special information on particular subjects. Many asked to be placed in communication with persons having eggs or birds to sell for breeding purposes. Many ask me to secure a market for their products and dealers ask where to secure a supply. My object has been at all times to place the producer and purchaser in communication with each other and in so far as possible to meet the requirements of all concerned.

THE POULTRY BREEDING STATION.

Ever since the general public was aware of the fact that the province maintained a poultry breeding station and that eggs and birds were obtainable there has been a great demand for both eggs

and birds. At no time has there been a sufficient supply of either to meet the demand. In fact the demand so increased during the past year that it was possible to supply only about one-tenth of the applications.

From the reports of what each pen of birds was doing the following statement has been compiled, showing the eggs laid each month and the average per hen:

MONTH	NO. BIRDS	NO. EGGS LAID	AVERAGE PER HEN
January...	282	365	1.22
February...	281	653	2.32
March...	261	1,472	5.63
April...	256	2,309	9.00
May...	214	1,857	8.67
June...	124	667	5.37
July...	91	498	5.47
August...	83	402	4.81
September...	80	295	3.68
October...	105	128	1.12
November...	213	126	.59
December...	240	366	1.52
Yearly average...			49.40

An average of 50 eggs per hen per year is small when compared with an official record of an average of 243 eggs per year. This record, however, may be considered as a fair estimate of what the average flock of poultry in the province is doing. The reason for this is that the birds making the above record were secured from the various breeders in the province by the Department when the station was established and should thus fairly represent the laying ability of the birds of the province. In fact this average is above the official average for this province which is only 40 eggs per year.

During the months of January, February, March and half of April trap nests were placed in all the pens and an accurate record kept of the number of eggs laid by each hen. The results of this work are given in the accompanying tables. They are worthy of most careful study. Some of the birds did not lay at all, and some 75 of them laid less than 10 eggs each during the above months. Some of the birds for this period exceeded the average of the whole flock for the year. The tables illustrate in no uncertain way the great value and necessity of ascertaining which are the most prolific layers in a flock and of the advisability of making up a breeding pen of these prolific layers.

TRAP NEST RECORD. PEN NO. 1.—WHITE WYANDOTTES.

HEN NO.	42	939	22	69	646	24	11	61	724	731	82	658	71	70	34x	12x	17x	769	12x	93	20x	2	926	686	Total for month	No. in Pen
December	7	6	11	1																					25	25
January	4	5	3		2																			1	17	25
February (no eggs laid)																										24
March	3	2	9			13	11	9	3	14	8	9	1	4	1	2									89	23
April 15	9	11	2			7	6	6		10	7	7		8			1	9	8	4	8	3	8		114	23
Totals	23	24	25	1	2	22	17	15	3	24	15	16	1	12	1	2	1	9	8	4	8	3	8	1	245	

PEN NO. 2.—WHITE WYANDOTTES.

HEN NO.	2	25	951	88	729	93	79	91	86	80	83	98	77	16	1	19x	33	680	14x	30x	21	80x	19	99	39x	92	638	21x	76x	42x	44x	5	Total for mon.	No. in Pen
December.....	16	8																														24	24	
January.....	6	2																													8	24		
February (No eggs laid)																																24	24	
March.....	2	9	7	8	9	5	11	6	7	7	1	11	1	7	4	1	2	1														99	24	
April 15.....		9	10	6		9	9	4	10	6	9		9	5	9		5	10	2	1	6	1	1	8	1	4	9	4	6	2	4	169	24	
Totals.....	22	21	19	13	8	18	14	15	16	13	16	1	20	1	12	13	1	7	11	2	1	6	1	1	8	1	4	9	4	6	2	4	300	

TRAP NEST RECORD—(Continued) PEN No. 3.—RHODE ISLAND REDS.

HEN NO.	20	17	R.O.	18	19	13	11	48	59	52	92	99	94	780	18x	35x	10x	46x	83	45x	4x	9	13x	38x	1	Total for month	No. in Pen
December...	1	9	5	7	8	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	12	27	35	
January...	...	7	...	13	3	13	5	7	2	1	...	...	...	...	...	...	...	...	...	...	...	...	...	4	30	35	
February...	...	8	...	10	17	2	5	8	15	11	15	10	11	10	5	5	5	1	1	1	...	...	...	11	51	35	
March...	...	10	...	12	10	13	8	9	3	11	...	7	3	2	1	6	6	6	...	...	...	3	7	8	155	35	
April 15.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	131	24	
Totals	1	41	5	42	38	32	18	24	20	23	15	17	14	13	10	6	9	7	1	1	4	3	7	8	35	394	

PEN No. 4.—BARRED ROCKS.

HEN NO.	29	74	66	70	99	58	78	63	62	69	56	89	8x	228x	23	7x	3x	17x	85	25x	33x	36x	5x	76	Total for month	No. in Pen
December (no eggs laid)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	25
January (no eggs laid)	7	6	1	3	1	2	2	1	8	5	4	4	...	...	...	...	...	...	...	...	...	...	...	...	20	25
February...	...	...	...	5	...	11	5	...	4	9	13	8	19	11	1	6	6	1	1	6	3	7	6	2	69	25
March...	...	...	...	...	...	8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	143	25
April 15.	5	11	10	9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	27	27
Totals...	19	31	17	17	1	21	7	1	12	14	17	12	10	11	1	6	6	1	1	6	3	7	6	5	232	

TRAP NEST RECORD—Continued. PEN No. 5.—BUFF ORPINGTONS.

HEN NO.	95	11	716	15	22	14	762	6	40	4	87	39	41	13	49	7	45	96	23	68	30	27	31	26	60	16	85	24	17r	38	Total No. for in m'nth Pen
December	18	12	15	20	10	8	8																								91
January	8	3	9	1	15	11	8	16	9	4	4	1	1																		90
February	6	13	16		16	10	3	13	6			4	18	13	9	7	12	8	1	13	7	3	5								183
March	14		6		14	12	10	8	9	7	4	12		5	9		5	1	3	7	3	4	8	14	16	15	8	5		1	200
April 15	5			6	8	8	8	10	9	6	7		6				8			8			4	6	1						100
Totals	51	28	46	41	61	47	35	48	31	14	27	19	25	9	16	12	21	2	16	22	6	9	12	20	16	16	8	5		1	664

PEN No. 7.—BUFF ORPINGTONS.

HEN NO.	18	592	12	2	3	54	46	47	8	14	20	22	90	42	34	67	57	55	46x	51	31	84	41	32	Total for month	No. in Pen
December	10	10																							20	36
January	5	16	17	16	4	9	5	13	7	4	7	5													108	36
February	9	15	1	13		2	2	14	7	4	10	3	17	7	7	3	5	2	1						113	36
March	19	7	15	9		16	13	20	3	17	10	7	19	4	7		6	18	19						233	36
April 15	8	9	3	13	3	9	7	10		7		9	7		13		7	7	2	6	7	10	7	5	142	32
Totals	51	57	36	51	16	24	27	57	17	32	27	24	26	21	27	3	11	27	22	6	7	25	7	5	616	

TRAP NEST RECORD—(Continued) PEN NO. 8.—BARRED ROCKS.

HEN NO.	25	5	7	9	1	43	44	38	15	32	36	50	28	37	33	49	100	35	72	75	65	53	71	51	98	22	81	95	96	11	73	Total No.	
																																Mon.	Pen
January	1	1	1	2	6	3	3	1	11	7	10	4	5	9	4	10	11	3	4	2	2	2	2	2	2	2	2	2	2	2	2	18	24
February	1	1	4	1	4	5	12	1	11	7	10	4	5	9	4	10	11	3	4	2	2	2	2	2	2	2	2	2	2	2	116	24	
March	5	5	16	7	7	10	6	8	8	8	12	4	4	4	15	7	6	6	4	11	11	12	10	4	12	1	2	10	2	2	178	30	
April 15	6	6	6	9	9	9	6	5	5	8	5	11	10	9	7	11	11	11	8	9	9	11	7	10	3	9	4	4	11	4	5	198	30
Totals	13	1	27	3	26	27	15	8	24	23	23	27	19	22	26	10	29	20	16	22	3	26	19	14	15	10	6	6	21	6	5	10	510

In order to take advantage of the result of the trap nest work the best layers were drafted into the breeding pens when the breeding season came, and it is hoped thereby to eventually build up a better laying strain and gradually increase the average of each pen.

In all cases the pens containing the largest number of pullets laid the greatest number of eggs.

EGG PRODUCTION AND COLD WEATHER.

In connection with the trap nest work a reading of the thermometer was taken daily to verify the fact that extremely cold weather does not necessarily hinder egg production. A pen record for one month is herewith given in which the temperature at no time during the month was above freezing point. While the birds have no special laying qualities it shows that it is possible to secure a fair supply of eggs even in houses of low temperature and that the severe cold has no apparent effect.

EGG RECORD DURING COLD WEATHER.

PEN NO. 7.—BREED, BUFF ORPINGTONS—MONTH, JANUARY, 1909

HEN NO.	592	18	67	12	2	3	24	46	47	8	14	20	22	293	Totals	Temp of Pen
DATE																
1	1														1	18a
2	1	1	1												3	8a
3	1	1													2	10a
4	1														1	8b
5			1												1	15b
6		1		1	1	1	1	1	1						7	3b
7				1	1	1		1	1	1	1				7	18b
8		1			1		1			1		1			5	4b
9				1	1				1	1	1				5	8b
10	1	1		1	1	1	1	1		1	1	1			10	4a
11	1				1		1					1			4	10a
12	1			1		1	1	1							5	6a
13				1					1			1			3	0
14				1	1				1	1	1				5	15b
15	1						1		1				1		4	0
16				1	1			1	1	1					5	6a
17	1			1	1										3	12a
18	1			1											2	15a
19									1						1	24a
20				1	1			1	1						4	20a
21	1			1								1			3	22a
22									1			1			2	16a
23				1	1										2	2b
24	1			1	1		1								4	5a
25													1		1	10a
26	1			1	1							1			4	20a
27	1				1								1		3	28a
28				1			1								2	15a
29	1				1			1	1				1		5	2a
30				1	1					1					3	15a
31	1						1		1				1			
Totals.	16	5	2	17	16	4	9	5	13	7	4	7	5		110	

From the observations I have made in the province the chief reason for the failure of egg production during the winter months is not *cold* so much as *dampness* in the houses. With a desire to make the houses warm no provision, or insufficient provision, is made for a supply of fresh air. Moisture soon accumulates through

the lack of ventilation and appears as frost on the walls and roof of the house making a damp cold that is fatal to egg production. I find that in dry houses, even in very cold weather, many farmers are securing a good supply of eggs. This is always provided, of course, that suitable foods, necessary for the production of eggs, are fed.

EGGS FOR HATCHING.

During the hatching season 2,667 eggs were supplied to applicants from the plant for hatching purposes. From the reports received but few complaints were made.

The receipts from the poultry plant for the year were as follows:

MONTH	EGGS	BIRDS
January	\$ 22.05	\$ 7 50
February	15 50	
March	165 00	5.65
April	59 25	
May	24.00	21.50
June	2.50	38.50
July	71 25	18 00
August	23 20	3 00
September	9.25	6.00
October	5 55	2 00
November	3 15	25 50
December	16 30	36.20
Totals	\$417 00	\$163 85

Of the above receipts some \$167.50 was refunded to persons that we expected to be able to supply with eggs for hatching but found it impossible to do so.

During the later part of the season we received orders to the amount of \$69.75 which we were unable to accept owing to the number of orders on hand which remained to be filled.

While the object of the breeding station is to assist the poultry raisers of the province in securing new blood and laying strains it will be impossible to supply even a small portion of this demand unless there is considerable enlargement to the present capacity of the plant.

A. W. FOLEY,
Poultry Superintendent.

6.—REPORT OF THE RECORDER OF BRANDS.

SIR,—I have the honour to submit the following report on the work of this branch of your Department for the year ending 31st December, 1909.

During the year 1,722 horse and 1,794 cattle brands were allotted, while the transfers numbered 495, changes 36, extracts 43, searches and strays 1,187, being a total of 5,277 transactions during the year. The above figures show an increase of 267 horse and 131 cattle brands, while the transfers have increased by 6, changes by 3 and extracts, searches and strays by 589, or a total increase of 996 transactions during the year.

For the Province of Alberta alone the horse brands numbered 1,308, cattle brands 1,326, transfers 430, changes 33, extracts, searches and strays 783, being a total of 3,880, which shows an increase of 205 horse, 101 cattle brands, 9 transfers, 4 changes and 491 extracts, searches and strays, or a total increase for the province of 810 transactions.

It will be noticed from an analysis of the statements appended that during the earlier years the cattle brands far outnumbered the horse brands, but within the past four years the latter have been making rapid increases and are not within 72 of the same number. In the year 1900 the cattle and horse brands numbered 1,508 and 886 respectively, a difference of 622, while in 1905 the figures were 1,760 and 1,322, or a difference of 438. This year, as will be seen from the foregoing figures, the cattle brands recorded were 1,794 and horse brands 1,722, and although the cattle brands this year show an increase of 286 and 34, respectively, over the years 1900 and 1905, the horse brands give an increase of 836 and 400 over these years, or 94 per cent. over 1900 and 30 per cent. over 1905. The large immigration of farmers, which the province has been fortunate enough to secure these last few years, has been the cause of this increase and gives promise of a steady growth for a number of years to come.

As was the case last year, the largest number of applications for horse brands have been received from the districts along the railway line from Macleod to Edmonton and in that part of the province lying south of the Crow's Nest Railway.

The amended Stray Animals Ordinance of 1908 is becoming more widely known, and, as a consequence, the number of cases reported have increased from 292 in 1908 to 744 for last year. In every case where the animal bears a recorded brand the finder and owner are each written to, and this branch of the work has added considerably to the work of this office. There is still a large number of animals reported as being indistinctly branded, and in these cases the finder is usually notified to clip the animal or report the case to the nearest brand reader.

The intention of the Department to issue a new supplement to the brand book for 1907, 1908 and 1909 has given a good deal of extra work, but the material is well advanced and it is hoped to have the whole manuscript ready for the printer early in the spring of the year.

A joint meeting of the Brand Commissioners for the Provinces of Alberta and Saskatchewan was held at Medicine Hat on the 13th

of May, at which a further series of cattle brands was approved, and arrangements have been made for a certain part of these series to be used in each province along the interprovincial boundary in order, as far as possible, to prevent any risk of conflicting brands.

The number of letters received during the year referring to the Province of Alberta, was 5,021, while the number of documents despatched was 7,557, a total of 12,578, being an increase of 1,431 over the previous year.

The following is a statement showing the transactions from 1898 up to December 31st, 1909, from which it will be noticed that the total number of brands on record at 31st December last was 41,018:

TRANSFERS.

1899		132
1900		165
1901		222
1902		265
1903		400
1904		402
	N.W. Territories	299
1905	Alberta	120
	Saskatchewan	80
1906	Alberta	389
	Saskatchewan	72
1907	Alberta	430
	Saskatchewan	59
1908	Alberta	421
	Saskatchewan	68
1909	Alberta	430
	Saskatchewan	65

CHANGES.

1899		..
1900		27
1901		20
1902		26
1903		43
1904		43
	N.W. Territories	32
1905	Alberta	7
	Saskatchewan	1
1906	Alberta	38
	Saskatchewan	2
1907	Alberta	28
	Saskatchewan	6
1908	Alberta	29
	Saskatchewan	4
1909	Alberta	33
	Saskatchewan	3

SEARCHES AND EXTRACTS.

1899		..
1900		35
1901		42
1902		100
1903		144
1904		124
	N. W. Territories	81
1905	Alberta	13
	Saskatchewan	2
1906	Alberta	73
	Saskatchewan	23
1907	Alberta	73
	Saskatchewan	15
1908	Alberta (including strays)	292
	Saskatchewan (including strays)	349

1909, Alberta (including strays)	783
Saskatchewan (including strays)	447
Number of brands re-allotted in 1898	3,228

CATTLE BRANDS.

1898	2,111
1899	1,466
1900	1,508
1901	1,689
1902	1,934
1903	2,390
1904	2,034
1905 { N. W. Territories	1,353
{ Alberta	337
{ Saskatchewan	70
1906 { Alberta	1,894
{ Saskatchewan	641
1907 { Alberta	1,230
{ Saskatchewan	415
1908 { Alberta	1,225
{ Saskatchewan	438
1909 { Alberta	1,326
{ Saskatchewan	468

HORSE BRANDS.

1898	941
1899	821
1900	886
1901	947
1902	1,234
1903	1,390
1904	1,346
1905 { N. W. Territories	985
{ Alberta	248
{ Saskatchewan	89
1906 { Alberta	1,361
{ Saskatchewan	371
1907 { Alberta	1,030
{ Saskatchewan	435
1908 { Alberta	1,103
{ Saskatchewan	352
1909 { Alberta	1,308
{ Saskatchewan	414
Total brands on record up to 31st December, 1909 41,018	

Total transactions in 1898	6,280
" " 1899	2,419
" " 1900	2,521
" " 1901	2,920
" " 1902	3,559
" " 1903	4,367
" " 1904	3,949
" " 1905 { N. W. Territories.	2,750
{ Alberta	725
{ Saskatchewan	242
" " 1906 { Alberta	3,755
{ Saskatchewan	1,109
" " 1907 { Alberta	2,791
{ Saskatchewan	930
" " 1908 { Alberta	3,070
{ Saskatchewan	1,211
" " 1909 { Alberta	3,880
{ Saskatchewan	1,397

JAS. WILSON,
Recorder of Brands.

7.—REPORT OF SUPERINTENDENT OF FAIRS AND INSTITUTES.

SIR,—I have the honour to submit herewith a report for the year 1909 on the work of the agricultural societies throughout the province, and on the educational work undertaken in the interests of agriculture.

I.—FARMERS' INSTITUTE MEETINGS.

It is pleasing to be able to record that a greater interest is being taken in the institute meetings as the years go by. The novelty of such work has now passed away and those who attend meetings are present because they want information. The average attendance at the meetings was about forty. This was undoubtedly reduced considerably on account of the severity of the winter.

An endeavour has been made to carry the work to outlying districts, and reports of speakers go to show that the attendance and interest justifies the holding of a greater number of meetings at points removed from the line of railway. There is a very limited opportunity for men in these districts to secure information. There are no older settlers from whom experience may be gained, and a word of advice in the early stages of development may save many dollars to the district, and as well prevent errors which it would otherwise take years to remedy.

The following is a list of meetings addressed by Mr. Geo. W. Scott, Creamery Inspector, Innisfail, who spoke on the "Care and Handling of Milk and its Products on the Farm," and Mr. J. G. Clark, of Irma, who spoke on the "Building up of a Dairy Herd, feeding, care, management and stabling of dairy animals":

Knee Hill Valley	January 11
Grassy Lake	" 12
Lake View	" 13
Trochu Valley	" 14
Three Hills	" 15
Carbon	" 16
Sunny Slope	" 18
Springfield	" 19
Neapolis	" 20
Didsbury	" 21
Adkin's School	" 22
Olds	" 23
Carstairs	" 25
Bowden	" 26
Innisfail	" 27
Penhold	" 28
Markerville	" 29
Dickson	" 30
Evarts	February 1
Eckville	" 2
Burnt Lake	" 3
Red Deer	" 4
Canyon	" 5
Blackfalds	" 6
Lacombe	" 8
Bentley	" 9
Rimbey	" 10
Valley City	" 12
Alix	" 13



POULTRY BREEDING STATION, EDMONTON.

Content	February 15
Erskine.....	" 16
Stettler.....	" 17
Red Willow.....	" 18
White Brush	" 19
Lamerton	" 20
Earlville.....	" 22
Morningside	" 23
Ponoka.....	" 24
Ferry Bank	" 25

The following list of meetings were addressed by Mr. H. S. Pearson, who spoke on Approved Methods of Dairying, and Mr. W. J. Tregillus, who spoke on Dairy Live Stock:

Hardisty	January 11
Lougheed	" 13
Sedgewick	" 14
Strome.....	" 15
Daysland	" 16
Spring Lake	" 18
Bawlf	" 19
Camrose.....	" 20
Rosenroll	" 21
Lewisville	" 22
Wetaskiwin.....	" 23
Millet.....	" 25
Bonnie Glen.....	" 26
Conjuring Creek.....	" 27
Leduc.....	" 28
Spruce Grove	" 29
Stony Plain	" 30
Riviere Qui Barre	February 1
Morinville	" 2
St. Albert	" 3
East Clover Bar	" 4
Lloydminster.....	" 5
Marwayne	" 6
Kitscoty	" 8
Islay	" 9
Vermilion	" 10
Mannville	" 11
Minburn	" 12
Innisfree	" 13
Ranfurly	" 15
Viking.....	" 16
Holden	" 17
Equity	" 18
Tofield	" 19
Lavoy	" 22
Vegreville	" 23

The following list of meetings were addressed by Mr. T. O. Lachance, of Leduc, who spoke on Poultry Raising in connection with the Farm, and Mr. E. J. Cook, of Lethbridge, who spoke on Feeding and Housing of Poultry for winter egg production:

Irvine.....	January 11
Medicine Hat	" 12
Burdette	" 13
Taber	" 14
Lethbridge	" 15
Stirling	" 16
Magrath	" 18
Raymond	" 19
Warner.....	" 20
Cardston	" 21
Mountain View.....	" 22
Caldwell	" 23
Kimball.....	" 25

Macleod.....	January 27
Granum	" 28
Claresholm.....	" 29
Stavely.....	" 30
Nanton	February 1
Cayley.....	" 2
High River.....	" 3
Okotoks	" 4
Calgary	" 5
Cochrane.....	" 6
Langdon.....	" 8
Strathmore.....	" 9
Gleichen	10

The following list of meetings were addressed by Mr. A. W. Foley, Poultry Superintendent, Edmonton, who spoke on the Best Methods of Poultry Raising from a Practical Standpoint, and Miss Nora Trench, of Alix, who spoke on the Housing of Poultry:

Lloydminster	January 11
Kitscoty	" 12
Islay.....	" 13
Vermilion.....	" 14
Mannville	" 15
Innisfree	" 16
Ranfurly	" 18
Viking	" 19
Holden.....	" 20
Equity	" 21
Tofield.....	" 22
Port Saskatchewan	February 1
Chipman.....	" 2
Vegreville	" 3
Lavoy.....	" 4
Clover Bar	" 5
St. Albert	" 6
Naamoo	" 8
Beaumont	" 9
Leduc	" 10
Bonnie Glen	" 11
Conjuring Creek.....	" 12
Millet	" 13
Hardisty	" 15
Lougheed	" 16
Sedgewick	" 17
Killam	" 18
Daysland	" 19
Spring Lake	" 20
Bawlf	" 22
Camrose	" 23
Rosenroll	" 24
Lewisville	" 25
Wetaskiwin	" 26

Soil Cultivation and Forestry.

The following meetings were addressed by Mr. Arch. Mitchell, Indian Head, who spoke on Tree Planting and Care of Trees on Farm, and Mr. D. W. Warner, Edmonton, who spoke on Cultivation of the Soil:

Langdon	February 6
Strathmore.....	" 8
Gleichen.....	" 9
Medicine Hat.....	" 10
Irvine	" 11
Taber	" 12
Lethbridge	" 13
Cardston	" 15

Magrath.....	February 16
Raymond.....	" 17
Stirling.....	" 18
Macleod.....	" 19
Pincher Creek.....	" 20
Granum.....	" 22
Claresholm.....	" 23

At the following places Mr. T. B. R. Henderson, Chief Inspector of Weeds, spoke on Noxious Weeds in the place of Mr. Warner:

Stavely.....	February 24
Nanton.....	" 25
Cayley.....	" 26
De Winton.....	" 27

Grain and Alfalfa.

The following list of meetings were addressed by Mr. W. C. McKillican, representative of Seed Branch of Dominion Government, Calgary, who spoke on Seed Grain, Cultivation of the Soil, and Weeds, and Mr. T. H. Woolford, Cardston, who spoke on The Growing of Alfalfa and Identification and Eradication of Noxious Weeds:

Three Hills.....	February 9
Bowden.....	" 11
Penhold.....	" 12
Blackfalds.....	" 13
Morningside.....	" 15
Ponoka.....	" 16
Wetaskiwin.....	" 17
Millet.....	" 18
Leduc.....	" 19
Ellerslie.....	" 20
East Clover Bar.....	" 22
Namao.....	" 23

Advertising.

The advertising of institute work received special attention during the year. The old method of scattering posters broadcast throughout the country has not proved satisfactory. In many cases those to whom the bills were sent did not attend to posting them in a conspicuous place. The thanks of the Department, however, are due to many who gave very careful attention to this matter. In addition to advertising each week's meetings with a large number of posters, a circular letter was sent to all the names on our mailing list. This letter outlined the work to be taken up at a certain set of meetings, and as well solicited attendance and assistance. It will be easily understood that with such a thorough system of direct advertising the results were highly satisfactory.

Stock Judging Schools.

Stock judging schools have been an important feature of the institute work for some years past. During the year a number of travelling stock judging schools were operated. Selected stock was secured from the breeders of the province, and included the following breeds:

CATTLE.—Shorthorns, Herefords, Holsteins, Ayrshires and Jerseys.

HORSES.—Percherons, Clydesdales and Hackneys.

The stock was carried from place to place and used for demonstration purposes. A large round tent was secured, fitted with circus seats and stoves and used as a classroom. This proved very satisfactory as in previous years it was a difficult matter to get proper classrooms at the various points visited.

The following is a list of places at which schools were held:

Lloydminster	January 26 and 27
Vermilion	January 28, 29, 30.
Vegreville	February 1, 2, 3.
Fort Saskatchewan	February 4, 5, 6.
Morinville	February 8, 9, 10.
Stony Plain	February 11, 12, 13.
Leduc	February 15, 16, 17.
Camrose	February 18, 19, 20.
Daysland	February 22, 23, 24.
Sedgewick	February 25, 26.
Hardisty	February 25.

A two-days' stock judging school was held at each of the following places, and local stock was secured for demonstration purposes:

High River	January 9 to 11.
Okotoks	January 12 and 13.
Airdrie	January 14 and 15.
Crossfield	January 16 and 18.
Carstairs	January 19 and 20.
Didsbury	January 21 and 22.

The attendance at these schools varied from 100 to 325. Instruction was given in types of animals, characteristics of breeds, feeding, care, management, etc.

The following instructors were employed:

Duncan Anderson, Department of Agriculture, Ottawa.
 C. M. MacRae, Department of Agriculture, Ottawa.
 Bryce Wright, De Winton, Alta.
 G. H. Hutton, Superintendent Experimental Farm, Lacombe.
 M. D. Geddes, Calgary.
 H. A. Craig, Department of Agriculture, Edmonton.

Short Course in Agriculture.

A two-weeks' short course in agriculture was held at Lacombe from the 1st to 13th of March. The following was the programme of the short course:

First Week

Monday.—9.30 to 11, Grain Judging; 11 to 12, Noxious Weeds; 1.30 to 3, Stock Judging; 3 to 4, Stock Judging.

Tuesday.—9.30 to 10.30, Identification of Weeds; 10.30 to 12, Grain Judging; 1.30 to 3, Stock Judging; 3 to 4, Stock Breeding.

Wednesday.—9.30 to 11, Grading Grain; 11 to 12, Formation of Soils; 1.30 to 3, Stock Judging; 3 to 4, Veterinary Work.

Thursday.—9.30 to 10.30, Poultry; 10.30 to 12, Grain Judging; 1.30 to 3, Stock Judging; 3 to 4, Veterinary Work.

Friday.—9.30 to 10.30, Poultry; 10.30 to 12, Grading of Grain; 1.30 to 3, Stock Judging; 3 to 4, Stock Breeding.

Saturday.—9.30 to 10.30, Dairying; 10.30 to 12, Grain Judging; 1.30 to 3, Stock Judging; 3 to 4, Horticulture.

Second Week

Monday.—9.30 to 10.30, Identification of Noxious Weeds; 10.30 to 12, Grain Judging; 1.30 to 2.30, Dairying; 2.30 to 4, Stock Judging.

Tuesday.—9.30 to 10.30, Identification of Noxious Weed Seeds; 10.30 to 12, Grass and Clover Seeds; 1.30 to 2.30, Dairying; 2.30 to 4, Stock Judging; 8.30 p.m., Lantern Slides.

Wednesday.—9.30 to 10.30, Poultry; 10.30 to 12, Grain Judging; 1.30 to 2.30, Dairying; 2.30 to 4, Stock Judging.

Thursday.—9.30 to 10.30, Poultry; 10.30 to 12, Soil Cultivation; 1.30 to 2.30, Dairying; 2.30 to 4, Stock Judging.

Friday.—9.30 to 10.30, Forestry; 10.30 to 12, Grain Judging; 1.30 to 2.30, Dairying; 2.30 to 4, Stock Judging; 8.30 p.m., Forestry (Lantern Slides).

Saturday.—9.30 to 10.30, Forestry; 10.30 to 12, Grading of Grain; 1.30 to 2.30, Dairying; 2.30 to 4, Stock Judging.

The Lacombe Board of Trade took a very active interest in the work of the school. Arrangements were made for reduced rates for board and lodging, and also for reduced rates on the railways. A building was furnished and equipped for use as a classroom. Besides this a large silver trophy was offered for proficiency in grain judging and stock judging.

The following gentlemen showed interest and sympathy with the school in a very tangible way by offering silver cups as follows:

W. F. Puffer, M.P.P., Lacombe. Highest score in judging grain.
 Bryce Wright, DeWinton. Highest score in judging horses.
 W. J. Tregillus, Calgary. Highest score in judging cattle.
 G. H. Hutton, Lacombe. Highest score in judging live stock.
 (Open to Lacombe District.)

At the conclusion of the school competitions were held for the judging of grain and live stock, and for the identification of weed seeds. About one hundred students were regularly registered for the full two weeks of the school. Those who came in from the surrounding district and those who came from a distance to take two or three days of the school swelled the number to about three hundred. A very encouraging feature of the work was that those who registered as regular students stayed for the full course of the school.

Excursions.

Farmers' excursions were run to Lacombe and Lethbridge Experimental Farms on July 20th and 25th, respectively. Arrangements were made for special trains as follows:

Strathcona to Lacombe.
 Calgary to Lacombe.
 Settler to Lacombe.
 Calgary to Lethbridge.

Special rates were secured on the regular trains on the Wetaskiwin, Crow's Nest, Calgary and Medicine Hat Branches, and also on the Alberta Railway and Irrigation lines. Excursionists at Lacombe numbered about 500 and at Lethbridge about 250. The excursionists were taken round the farms by guides who explained various matters of interest. After the farms had been inspected several addresses were delivered, notable amongst which were those of the superintendents of the farms, who explained the nature of their work and also enlarged upon certain experiments which could be put to practical use on the ordinary farm. Although the attendance was not as large as might have been expected, yet there is no question that if the excursions were carried on another year the number would be greatly increased.

II.—FAIRS.

There can be no doubt that renewed interest is being taken in the agricultural fair. This is plainly demonstrated by the increased attendance at the fairs, number and quality of the exhibits and also the marked improvement in the buildings of the various associations. Generally speaking, the societies are on a fairly good financial basis. By way of suggestion it might be remarked that too little significance is given to the educational features of the fair. It is strongly recommended that a large judging ring be established on every society's exhibition grounds, that the horses and cattle be judged in different parts of the same ring, and that a grand stand be placed at one side of the ring where onlookers may watch the judging with comfort.

The following is a list of fairs held during 1909 together with dates and names and addresses of judges:

FAIR	DATE	JUDGE FOR HORSES	JUDGE FOR CATTLE, SHEEP AND SWINE
Edmonton. . . .	June 29, 30 . . .	Alex. Innis, Clinton, Ont. (Heavy).	W. A. Dryden, Brooklin, Ont.
	July 1, 2 . . .	P. Farrell, Woodstock, Ont. (Light).	
Calgary . . .	July 5 to 10	Alex. Innis, Clinton, Ont. (Heavy).	W. A. Dryden, Brooklin, Ont.
		P. Farrell, Woodstock, Ont. (Light).	
Innisfail	July 12, 13	Alex. Innis, Clinton, Ont. . .	W. A. Dryden, Brooklin, Ont.
St. Albert. . . .	Aug. 3	D. C. Robertson, Edmonton.	H. W. Scott, Stratheona.
Clareholm. . . .	Aug. 3	E. C. Hallman, Airdrie . . .	T. H. Tinney, Medicine Hat.
Macleod	Aug. 4, 5, 6	"	"
Lethbridge	Aug. 10, 11, 12. . . .	"	"
Gleichen. . . .	Aug. 19, 20	"	"
Olds. . . .	Sept. 13, 14	D. C. Robertson, Edmonton. .	W. R. Winslow, Lacombe.
Medicine Hat	Sept. 14, 15, 16. . . .	"	"
Raymond. . . .	Sept. 16, 17. . . .	"	"
Nanton	Sept. 20, 21. . . .	"	"
Pincher Creek	Sept. 22	"	"
Magrath. . . .	Sept. 23, 24	"	"
Cardston. . . .	Sept. 28, 29. . . .	"	"
Taber	Sept. 30	"	"
Ponoka	Oct. 6, 7	H. Conn, Edmonton	Geo. Hunter, Edmonton
Lacombe	Oct. 7, 8	D. C. Robertson, Edmonton. .	"
Three Hills	Oct. 12	H. Conn, Edmonton. . . .	"
Bowden. . . .	Oct. 13	"	"
Priddis	Oct. 14	"	"
Leduc	Sept. 21	A. Paterson, Winnipeg, Man.	"
Daysland. . . .	Sept. 22, 23. . . .	"	J. G. Clark, Irma.
Sedgewick	Sept. 24	"	"
Lloydminster	Sept. 27. . . .	"	"
Innisfree	Sept. 27, 28. . . .	"	"
Vegreville	Sept. 29	"	"
Vermilion	Sept. 30, Oct. 1. . . .	J. G. Clark, Irma. . . .	D. W. Warner, Edmonton
Viking	Oct. 5. . . .	A. Paterson, Winnipeg, Man.	J. G. Clark, Irma.
Mannville. . . .	Oct. 8. . . .	"	"
Red Deer	Sept. 30, Oct. 1. . . .	"	Geo. Hunter, Edmonton.
Stettler	Oct. 1, 2. . . .	H. Conn, Edmonton. . . .	H. W. Scott, Stratheona.
Didsbury	Oct. 5, 6. . . .	D. C. Robertson, Edmonton	D. W. Warner, Edmonton.
Milnerton	Oct. 6. . . .	H. W. Scott, Stratheona. . . .	H. W. Scott, Stratheona.
High River	Oct. 19, 20. . . .	Dr. D. Warnock, Pincher Ck	A. J. McLean, M.L.A., Tab

EXHIBITION STATEMENT, 1909.

OCIETY	Date of Exhibition	No. of Entries	Amount paid in prizes for sports	Amount paid in prizes for field competition	Amount paid in prizes for stallion show	Amount paid in prizes for seed grain show	Amount paid in prizes for poultry show	Musical contest	Amount paid in other prizes	Exhibition grant payable 1910	Fine
1 Cardston	Sept 28, 29, ...	811	\$ 265 00	\$155 00		\$111 00		\$136 00	\$1,059 00	\$1,150 00	...
2 Magrath.	Sept 23, 24, ...	1,208	210 00	210 00		121 50	\$87 00	95 50	1,091 00	1,091 00	\$15 00
3 Didsbury.	Oct. 5, 6, ...	773	...	100 00		182 00	...	...	777 23	373 67	...
4 Innisfail.	July 12, 13, ...	988	...	100 00		...	...	...	1,476 00	1,476 00	...
5 Lacombe	Aug. 10, 11, 12	962	1,745 00	210 00		79 00		...	2,506 50	1,890 00	...
6 Lethbridge.	Aug. 4, 5, 6, ...	775	1,193 25	81 00		61 00		...	1,232 00	821 30	...
7 Macleod.	Sept. 14, 15, 16	499	840 00	120 00		...		...	1,965 00	723 33	...
8 Medicine Hat.	Sept. 13, 14, ...	929	...	...		99 00		...	479 50	418 67	...
9 Okotoks.	Sept. 22, ...	461	200 00	...		...		...	491 70	327 80	...
10 Pincher Creek	Oct. 7, 8, ...	796	78 25	...		135 00		...	1,469 50	979 67	...
11 Ponoka.	Sept. 16, 17, ...	720	46 35	85 00		54 00		...	1,017 75	835 17	...
12 Raymond.	July 14, 15, ...	539	...	100 00		...		...	713 75	529 83	...
13 Vermilion Valley	Sept. 29, ...	298	...	...		...		...	815 50	610 33	...
14 Weiskawin.	Sept. 21, ...	633	150 50	80 00		...		...	613 25	408 83	...
15 Wetaskiwin.	Sept. 20, 21, ...	287	...	...		82 00		...	836 00	692 67	...
16 Nanton.	Sept. 30, Oct 1	320	188 25	...		18 30		...	392 00	279 63	...
17 Vermilion.	Oct. 19, 20, ...	648	531 30	...		151 00		...	481 30	471 87	...
18 High River Millarville.	Oct. 14, ...	256	...	...		...		...	758 80	758 80	...
19 Piddis and B. L. District	Oct. 5, ...	532	...	...		...		...	339 00	226 00	...
20 St. Albert and Morinville	Aug. 3, ...	200	...	...		...		...	370 00	246 67	...
21 Mannville.	Sept. 30, Oct 1	384	239 00	...		53 00		...	419 00	279 33	...
22 Stettler.	Sept. 22, 23	282	410 00	...		...		...	315 50	455 00	...
23 Daysland.	Aug. 3, ...	355	56 00	...		...		...	682 50	470 33	...
24 Claresholm	Aug. 3, ...	398	45 00	...		...		...	464 00	370 33	...
25 Minerton.	Oct. 6, ...	38	...	...		...		...	464 00	370 33	...
26 Irvine.	Sept. 30	343	85 00	...		38 00	31 00	...	490 00	407 67	...
27 Taber.	Sept. 27, 28	379	19 40	...		92 00		...	296 37	296 37	...
28 Innisfree.	Sept. 24, ...	452	71 50	100 00		49 00		...	296 33	276 33	...
29 Selkiewick.	Sept. 29, ...	470	...	...		131 00		...	620 00	575 33	...
30 Lethbridge.	Sept. 27, ...	883	...	100 00		88 00		...	282 75	280 50	...
31 Lloydminster.	Oct. 6, 7, ...	208	...	...		...		...	1,163 00	931 33	...
32 Gleason.	Aug. 19, 20	...	705 30	...		208 00		...	404 25	269 50	...
33 Three Hills.	Oct. 12, ...	378	...	...		88 00		...	506 50	526 67	...
34 Irma (No exhibition held)	...	...	...	...		...		...	438 15	380 10	...
35 Crossfield (No exhibition held)	...	...	...	...		...		...	...	...	...
36 Airdrie.	Oct. 13, ...	466	...	...		...		...	...	...	...
37 Bowden.	Oct 8, ...	179	25 00	...		...		...	332 75	221 83	...
38 Grand Valley.	Sept. 25, ...	207	31 00	...		...		...	24 00	...	...
39 Wabamun.	...	...	...	...		...		...	54 00	...	...
40 Rexboro and District (No exhibition held)	...	...	...	...		...		...	...	...	...

EXHIBITION ASSOCIATIONS	Date of Exhibition	No. of Entries	Amount paid in prizes for sports	Amount paid in prizes for field competition	Amount paid in prizes for stallion show	Amount paid in prizes for seed grain show	Amount paid in prizes for poultry show	Musical contest	Amount paid in other prizes	Exhibition grant payable 1910	Fine
95 Red Deer	Sept. 30, Oct. 1	766	105 00			132 00			1,283 75	987 83	
98 Fort Saskatchewan (No exhibition held)	July 5, 10	3,287	6,827 17						10,870 00	3,000 00	
100 Fort-Western Pacific	June 29 to July 2	1,137	5,500 00						5,147 00	3,000 00	
Edmonton Industrial											

FINANCIAL STATEMENT, 1909.

SOCIETY	Balance on hand from 1908	Mis-cellaneous Receipts	Government Grant paid in 1909	Total Receipts	Total Expenditure	Balance on hand	Assets	Liabilities
1 Cardston	\$ 88 44	\$1,071 40	\$784 97	\$4,856 37	\$4,678 38	\$177 99	\$2,638 99	\$3,000 00
2 Deserett	230 93	4,296 50	1,059 17	5,444 11	5,711 78	138 58	4,500 00	3,467 67
3 Didsbury	9 15	559 15	534 00	1,324 08	1,185 50	56	138 58	.....
4 Innisfail		4,012 00	1,249 67	5,270 82	5,270 26		5,997 01	3,075 00
5 Lacombe								
6 Lethbridge	2 95	8,420 05	1,696 83	10,119 83	10,112 52	7 31	7 31	
7 Macleod	42 09	9,669 38	989 33	4,819 71	4,700 51	19 20	219 40	820 28
8 Medicine Hat	61 19	647 62	777 83	9,489 30	9,489 30		8,882 08	3,125 33
9 Olds		2,254 00	384 00	1,095 81	1,540 90		3,500 00	1,549 15
10 Pincher Creek	79 47	2,180 39	279 33	2,533 33	2,535 06		5,000 00	1,721 73
11 Ponoka		3,208 45	1,131 10	3,330 96	3,224 20	166 76	936 76	1,137 50
12 Raymond		1,880 05	975 50	4,183 95	4,183 95		1,700 00	1,400 40
13 Okotoks	152 34	2,203 90	682 45	2,562 50	2,559 52	2 98	1,702 98	1,065 75
14 Vermilion Valley and B. I. District	158 87	1,528 65	394 83	2,751 07	2,741 52	9 55	3,992 55	2,470 49
15 Wetaskiwin		2,765 80	470 67	2,158 19	2,646 10		1,218 30	527 91
16 Leduc	37 51	759 15	610 67	2,154 30	2,126 23	28 07	656 15	656 15
17 Nanton	7 47	905 65	480 67	1,277 33	1,169 29	108 04	108 04	
18 Vermilion	16 48	222 50	293 33	532 31	1,322 19	1 00	34 16	317 90
19 High River		562 05	371 33	655 33	2,076 16	42 74	114 74	100 00
20 Priddis and Millarville			257 67	957 91	506 25	26 06	28 06	107 50
21 Viking and Birch Lake District					851 90			393 14
22 St. Albert and Morinville					970 25		55 00	237 24
23 Mannville								
24 Stettler	1 70	1,253 42	448 83	1,703 95	1,842 67	213 91	1,812 01	1,282 65
25 Daysland	23 40	1,118 73	280 33	726 75	1,089 35		1,230 00	763 51
26 Claresholm	59 45	493 30	74 00				75 00	362 60

FINANCIAL STATEMENT—1909

SOCIETY	Balance on hand from 1908	Miscellaneous Receipts	Government Grant paid in 1909	Total Receipts	Total Expenditure	Balance on hand	Assets	Liabilities
27 Milnerton	20 95	845 55	334 67	1,201 17	1,170 10	31 07	252 52	455 00
28 Irvine	24 05	43 28	217 67	285 00	229 98	55 02	232 36	2 00
29 Taber	75 05	990 43	81 00	1,146 48	1,081 70	64 78	64 78	175 00
30 Innisfree	27 90	513 20	56 00	597 10	723 05			424 95
31 Sedgewick	75 45	1,278 60	104 00	1,458 05	1,388 90	69 15	116 95	1,011 95
32 Alix		1,131 35	255 33	1,386 68	1,387 10		25 00	400 42
33 Lloydminster	20 70	1,734 40	610 17	2,385 27	2,505 00		50 00	1,303 73
34 Camrose		662 55		662 55	649 88	12 67	12 67	250 00
35 Gleichen	123 66	2,765 60	258 83	3,148 09	3,047 91	100 18	4,400 18	1,154 78
36 Three Hills	107 00	495 75	72 00	674 75	690 45	15 95	32 95	131 65
37 Irma	54 75	60 00		114 75	8 90	105 85	105 85	
38 Crossfield		111 00		111 00	8 35	102 65	102 65	
39 Airdrie		493 75		493 75	483 70	10 05	10 05	122 80
40 Bowden								
41 Grand Valley				107 75	88 25	19 50	24 50	43 50
42 Wabamun		107 75						
43 Rexboro and District								
EXHIBITION ASSOCIATIONS								
95 Red Deer		17,464 84	1,117 07	18,581 91	18,549 32	32 59	12,443 59	10,815 15
98 Fort Saskatchewan								
99 Inter-Western Pacific	21,128 53	35,514 60	3,000 00	59,643 13	47,640 24	12,002 89	21,423 46	584 50
100 Edmonton Industrial		40,756 13	3,000 00	43,756 13	45,227 20		7,160 17	7,088 07

INSTITUTE STATEMENT, 1909.

	SOCIETY	Number of Members	Number of Meetings	Total Attendance	Membership Grant payable 1910
1	Cardston	151	2	100	\$150.00
2	Deserett	165	2	65	150.00
3	Didsbury	238	2	110	150.00
4	Innisfail	158	3	86	150.00
5	Lacombe	...	...	...	...
6	Lethbridge	167	2	50	150.00
7	Macleod	230	2	19	150.00
8	Medicine Hat	193	3	...	150.00
9	Olas	116	2	100	116.00
10	Pincher Creek	87	2	35	87.00
11	Ponoka	120	2	20	120.00
12	Raymond	159	2	88	150.00
14	Okotoks	155	2	60	150.00
15	Vermilion Valley and Beaver Lake	153	5	885	150.00
16	Wetaskiwin	88	2	120	88.00
17	Leduc	110	2	65	110.00
18	Nanton	150	2	60	150.00
19	Vermilion	71	2	55	71.00
20	High River	...	...	...	...
21	Priddis and Millerville	73	2	45	75.00
22	Viking and Birch Lake District	141	2	74	141.00
23	St. Albert and Morinville	75	2	150	75.00
24	Mannville	...	...	...	...
25	Stettler	141	2	62	141.00
26	Daysland	...	...	...	...
27	Clareholm	95	2	75	95.00
28	Milnerton	142	2	45	142.00
29	Irvine	24	2	57	None.
30	Taber	80	2	32	80.00
31	Innisfree	69	2	41	69.00
32	Sedgewick	93	2	182	93.00
33	Alix	112	2	75	112.00
34	Lloydminster	144	2	61	144.00
35	Camrose	143	2	125	143.00
36	Gleichen	73	2	55	73.00
37	Three Hills	121	2	58	121.00
38	Irma	60	2	63	60.00
39	Crossfield	111	0	0	None.
40	Airdrie	...	...	...	...
41	Bowden	100	2	45	100.00
42	Grand Valley	100	2	48	100.00
43	Wabamun	102	0	0	None.
44	Rexboro and District	76	2	45	76.00

During the year there have been seven new societies organized, as follows: Irma, Crossfield, Airdrie, Bowden, Grand Valley, Wabamun and Rexboro.

It has been found that there is a great danger of societies organizing too close to one another. An agricultural society should serve a district with a radius of at least nine miles. Where societies are formed at closer intervals than this it has been found on most occasions that one or other, or perhaps both, will suffer.

The following is a complete list of the agricultural societies and exhibition associations in the province:

NAME	SECRETARY	ADDRESS
Cardston...	S. M. Woolf....	Cardston.
Deserett...	Benj. Matkin....	Magrath.
Didsbury ..	H. B. Atkins....	Didsbury.
Innisfail ..	E. J. Fream....	Innisfail.
Lacombe....	Jas. Gourlay ..	Lacombe.
Lethbridge.	J. W. McNicol....	Lethbridge.
Macleod ..	R. H. Hilliard...	Macleod.
Medicine Hat.	W. N. Adsit ..	Medicine Hat.
Olds ..	R. B. Campbell ..	Olds.
Pincher Creek ..	J. H. Harwood ..	Pincher Creek.
Ponoka ..	T. W. Hutchinson...	Ponoka.
Raymond ..	S. F. Kimball....	Raymond.
Okotoks ..	E. A. Hayes....	Okotoks.
Vermilion Valley and Beaver Lake...	Frank Wilson...	Vegreville.
Wetaskiwin.	C. D. Enman ..	Wetaskiwin.
Leduc....	R. M. Watt ..	Leduc.
Nanton ..	Wm. Robertson...	Nanton.
Vermilion ..	H. A. Taylor ..	Vermilion.
High River ..	Harry Nelson...	High River.
Priddis and Millarville ..	R. Knights....	R. R. No. 1, Calgary
Viking and Birch Lake District...	C. S. Councilman..	Viking.
St. Albert and Morinville ..	J. St. Germain...	Morinville.
Mannville ..	R. B. Hanning....	Mannville.
Stettler ..	J. O. Young ..	Stettler.
Daysland ..	W. A. Cottingham ..	Daysland.
Claresholm ..	J. R. Watt ..	Claresholm.
Milnerton ..	E. W. Meers ..	Knee Hill Valley
Irvine....	T. R. Harris ..	Irvine.
Taber ..	Hans Hansen....	Taber.
Innisfree ..	J. J. Montgomery..	Innisfree.
Sedgewick ..	John Burn ..	Sedgewick.
Alix ..	G. H. Darlow...	Alix.
Lloydminster	H. Huxley ..	Lloydminster.
Camrose ..	Wm. Rylett...	Camrose.
Gleichen ..	B. S. Corey ..	Gleichen.
Three Hills ..	B. L. LaRoy ..	Three Hills.
Irma ..	Chas. Swailes ..	Irma.
Crossfield ..	Geo. Boyce....	Crossfield.
Airdrie	E. C. Hallman ..	Airdrie.
Bowden ..	H. E. Shenfield....	Bowden.
Grand Valley ..	H. M. Lumsden..	Cochrane.
Wabamun ..	W. C. Dunn ..	Wabamun.
Rexboro....	H. H. Rendall ..	Rexboro.
Red Deer ..	R. B. Welliver..	Red Deer.
Inter-Western Pacific.	E. L. Richardson ..	Calgary.
Edmonton Industrial ..	A. G. Harrison....	Edmonton.

III.—POULTRY SHOWS.

Poultry shows have been held at the following places:

Taber ..	January 15th.
Magrath....	January 19th and 20th.
Calgary ..	January 20th, 21st and 22nd.
Edmonton....	January 25th, 26th, 27th and 28th.
Lethbridge.....	

IV.—FIELD GRAIN COMPETITIONS.

The following societies held field grain competitions in 1909: Cardston, Innisfail, Magrath, Lacombe, Lethbridge, Macleod, Medicine Hat, Raymond, Vegreville, Leduc, Sedgewick and Lloydminster.

V.—SEED FAIRS.

The following societies held seed grain fairs:

Irvine.....	January 14
Three Hills	" 16
Taber	" 15
Lethbridge	" 16
Milnerton	" 16
Raymond	" 18
Magrath.	" 19, 20
Alix	" 20
Lacombe	" 21
Cardston	" 21
Red Deer	" 22
Macleod.	" 23
Sedgewick.	" 25
Daysland.	" 26
Gleichen.	" 26
Didsbury.	" 27
Fort Saskatchewan	" 28
Olds	" 28
Vegreville	" 29
Vermilion	" 30
Innisfail	" 29 and 30
Okotoks	February 1
Lloydminster	" 1
Alberta Provincial.	" 3, 4 and 5
Innisfree	November 29

VI.—STALLION SHOWS.

Spring stallion shows have been held at Medicine Hat, Okotoks and Calgary. The judges were:

M. D. Geddes, Calgary.
W. J. Plack, Winnipeg.
W. J. Rutherford, Regina.

VII.—PROVINCIAL FAT STOCK SHOW.

A fat stock show was held in Calgary on April 5, 6, 7 and 8. Cattle were exhibited on foot in quite large numbers. The exhibit of sheep and swine was not large but the quality was very good. Many of these animals were afterwards entered for block test. In this contest the interest manifested by the exhibitors was even keener than when the animals were judged alive.

VIII.—CALGARY HORSE SHOW.

The horse show at Calgary made a great step in advance during the past year. The usual show of horses was held at Victoria Park where most of the breeding stock was exhibited. In addition to this there was a large exhibit of harness and saddle horses in Sherman's Auditorium Rink. This building was fitted up at considerable expense for the convenience of exhibitors and spectators. The horses shown proved a splendid attraction to the large crowds of spectators who gathered in the afternoons and evenings.

IX.—HORTICULTURAL SHOWS.

The Calgary Horticultural Society held a very successful show on August 11th and 12th.

X. --ALBERTA FAIRS CONVENTION.

A fairs convention was held in Calgary on January 6th and 7th under the auspices of the Alberta Fairs' Association. At this convention dates were set for the various fairs, and several papers read and discussed relating to matters connected with agricultural societies and fairs.

H. A. CRAIG,
Superintendent of Fairs and Institutes.

8.—REPORT OF THE LIVE STOCK COMMISSIONER.

SIR,—I have the honour to submit herewith my second annual report on the work undertaken by the office of the Live Stock Commissioner during the year.

I.—HORSES.

The horse raising industry was a profitable one during the year 1909, prices being well sustained throughout. There was a sharp advance in prices early in the spring, especially for heavy horses. The demand then fell off somewhat until midsummer when another sharp advance was made, after which prices eased off somewhat, remaining at the close of the season at about the same as a year ago.

About the average number of foals were saved during the year. There were no epidemics. Through the efforts of the Dominion Health of Animals Branch the number of cases of *maladie-du-coit* and glanders has been materially reduced from that of a year ago. There has been a noticeable improvement in the class of stallions brought into the rural districts, but dispersion sales of range herds still continue.

The Alberta Horse Breeders' Association decided to raise the standard of their annual horse show and to place it upon the same plane as those of Toronto, Winnipeg and New Westminster. To this end they secured the use of Sherman's Auditorium in Calgary and fitted it up for the occasion. The number and quality of the exhibits attracted by this venture exceeded their expectations. The competition was keen and all classes were well filled. The following is a classification of the animals exhibited:

	<i>Total No. of Entries</i>	
Clydesdales.....	89—51	Stallions
Shires ..	4—3	"
Suffolk Punch.....	24—12	"
Percherons.....	20—14	"
Hackneys.....	11—8	"
German Coach and French Coach.....	9—2	"
Standardbreds.....	18—12	"
Thoroughbreds.....	13—4	"
Belgians.....	6—2	"

There were several important importations of purebred horses into the province during the year. Mr. J. A. Turner, of De Winton, brought in a carload of purebred Clydesdale stallions and mares, the greater number of which were sold to ranchers and stockmen throughout the Province. On November 23rd, Mr. William Butler, of Ingersoll, Ontario, sold at public auction at Lacombe, eight imported Clydesdale mares and two imported Hackney mares.

In 1907 George Jaques of Lamerton and Norman Jaques of Ingleton imported all told nine stallions and two mares. These met with such ready sale that further importations were made; that of 1909 numbering eight head of stallions and three mares. They have imported all told over fifty head of Suffolk Punch horses.

There is evidence that the Percheron horse has many admirers in Alberta. The quality of stallions and mares of this breed imported during 1909 is much superior to that of previous years.

Alberta has the distinction of having the largest individual stud of Percherons in North America. This is the stud of George Lane and Gordon, Ironsides and Fares at Pekisko, about fifteen miles west of High River. This stud divided honours evenly with some of the leading studs in the United States at the Alaska, Yukon and Pacific Exhibition at Seattle, Washington.

Mules.

With the advent of settlers from the Southern States, mules began to be seen in larger numbers in all parts of the province. It was at first thought doubtful if animals especially adapted to the south would thrive in a northern climate, but it has been demonstrated that conditions here are favourable to the health and usefulness of these animals and more attention is now being given to breeding them. No less than twelve "jacks" were sold in the province during the year.

II.—THE CATTLE INDUSTRY.

As regards the beef cattle situation, practically the same conditions existed in 1909 as prevailed a year ago. The practice of castrating the aged bulls, marketing the calves, spaying the heifers and sacrificing the aged cows still continues on the ranges. The number of farm bred cattle is steadily increasing and while this increase may not fully compensate in point of numbers for the diminishing output from the ranges, there is reason to believe that it does not fall far short of doing so. In point of quality and breeding there is much to be desired among the farm cattle of the province, and this fact more than the decrease in numbers will tend to reduce the amount and value of beef produced.

Stock Associations.

There are in Alberta two stock growers' associations. The membership of both consists principally of growers of beef cattle. These associations are known as the Western Stock Growers' Association and the Central Alberta Stock Growers' Association. The former consists chiefly of what are known as "big" ranchers, whose ranges as a rule are south of the main line of the Canadian Pacific Railway. The more active members of this organization run herds of from 5,000 to 25,000 animals. These men are beginning to feel the effects of the rapid agricultural development now going on in the vicinity of their respective ranges, and at their last annual convention set forth that they were operating at a serious disadvantage because of the uncertain tenure of their lease holdings and they asked that leases not yet cancelled shall be declared to be closed leases until the term for which they are drawn shall have expired and that lease holders at the expiration of the term of their leases be permitted to purchase not to exceed 10 per cent. of their lease holdings at \$3 per acre.

The Central Alberta Stock Growers' Association is composed of what are known as "small" ranchers and farmers. They run herds of from 50 to 2,000 animals. Some of the more active members have leases but the majority run their cattle on unoccupied lands. They operate principally between the Battle and Red Deer Rivers.

These men complain that many of the ranchers are careless about castrating their young bulls which as a rule are cross bred or grades and that settlers frequently bring with them bulls of dairy breeding which, running at large, cause serious loss to breeders of beef cattle. An inquiry has been made into the matter complained of, and the opinion of the farmers and dairymen has been solicited on the subject. From the information obtained, it would appear that the bull area should be very much restricted and that nowhere should any but purebred bulls of the recognized beef breeds be permitted to run at large.

Stock Inspection.—Brands.

The matter of stock inspection continues to be the cause of no little annoyance to shippers. Outside of the districts occupied by the "big" ranchers, it is difficult to get a competent person who is willing to perform this duty. Both stock growers' associations have expressed dissatisfaction with local inspection as now carried on. With the aid of the Provincial Government the Western Stock Growers' Association has stationed a stock inspector at Winnipeg, Manitoba, to inspect all Alberta cattle going through that point. Both organizations have asked that a similar inspector be stationed at Kamloops, British Columbia.

The Beef Commission in its report, filed with the Minister on December 19th, 1907, after having inquired carefully into the question, gave it as their opinion that the present system is inadequate and that a thorough system of stock and hide inspection by experienced inspectors should be established. There is reason to believe that a change in the method of stock inspection along the lines indicated by the Beef Commission and stock associations could profitably be made.

Prices.

The price paid during 1909 for beef cattle was on the whole fairly satisfactory to the stockmen, particularly the large holders. As much as 4½ cts. per pound live weight was paid for a train load of grass fed export steers in August last. There is evidence, however, that the holders of smaller lots of equally good animals have not fared so well.

Transportation.

As regards transportation, there has been little complaint of a shortage of cars, but the practice of supplying box cars for shipping live stock has been the cause of much dissatisfaction among shippers particularly during warm weather. There have also been complaints because of delays in feeding and watering cattle in transit.

Shipping Facilities.

Pursuant to an order of the Railway Commission there began on June 6th a general inspection of the stock yards of the province by the operating assistant Railway Commissioner, A. F. Dillinger, accompanied by H. C. McMullen, acting on behalf of the Canadian Pacific Railway Company, W. A. Brown, acting on behalf of the Canadian Northern Railway Company and the Provincial Live Stock Commissioner acting on behalf of the live stock interests of the province. This inspection lasted until July 5th and included all lines and branches which undertook to transport live stock. The

recommendations which followed this inspection provided for good drainage; drive and loading wings; and feed racks and water troughs in yards at points where live stock must be collected on the day prior to the day of shipment, in order to be ready to load at the time when the train is scheduled to arrive.

Stock Yards,—Improvement.

At several points, yards of the required type have been built. The necessary drainage has been provided at most places. At some points, notably those along the Stettler branch of the C.P.R., where, because of the large amount of construction work going on, traffic has been somewhat congested and shippers have suffered great inconvenience and loss through shrinkage, owing to delay in moving trains. This matter was taken up with the officials of the Canadian Pacific Railway Company at Calgary and with the Chief Railway Commissioner, who has consented to issue an order, if necessary, directing that the improvements required to be made at Stettler and Tees shall be installed without delay.

Importation of Dairy Cattle.

Acting upon the request of those interested in dairying, the Department agreed to pay the transportation charges incident to bringing into Alberta from the Provinces of Saskatchewan, Manitoba, Ontario and Quebec purebred cattle of the four recognized dairy breeds, namely, Ayrshire, Holstein, Jersey and Guernsey, for a consideration of \$5 per head for each animal thus imported, provided the same were brought out in carload lots. Under this arrangement there have been imported eight carloads of Ayrshires and one carload of Holsteins. Immediately prior to the announcement of the above arrangement Mr. C. A. J. Sharman of Red Deer brought in one carload of purebred Jerseys. Later in the year, Messrs. Bull and Sons brought out two carloads of Jerseys for exhibition purposes, nineteen head of these remained in the province, thus increasing by two carloads the number of purebred Jersey cattle in Alberta.

Mr. J. G. Clark of Irma also brought out several carloads of Ayrshires, the exact number has not been ascertained. The greater number of these animals were sold at public auction at Innisfail, Lacombe and Olds.

Interests of Local Breeders.

Several communications were received from local breeders of dairy cattle protesting that the above arrangement acted detrimentally to their interests and that they were in justice entitled to a correspondingly low rate on animals sold by them to parties in the province. While under the arrangement in force during the year the request of the Alberta breeders could not be complied with, there are many reasons why recognition should be granted them along the lines indicated, especially as regards male animals, in case the arrangement is continued next year.

Milking Shorthorns.

The friends of the dual purpose or milking Shorthorns have also urged the advisability of assisting in the introduction of the "English" dairy cow into the province, maintaining that it is much better adapted to Alberta conditions than are those toward the importation of which assistance has been given. This they maintain, is particularly true where there is still a considerable amount of open range upon which the steers may be grown with little cost.

III.—THE SWINE INDUSTRY.

The number of hogs marketed in the province during the year is estimated at about 30% less than that of a year ago. This is in part accounted for by the high price of coarse grain which prevailed throughout the year and the high rate of mortality among pigs farrowed early in the season. The price paid at the leading abattoirs has been generally high; though as a rule they have been about three-quarters of a cent per pound lower than the prices paid in Chicago and from one cent to one and a-half cents per pound lower than Montreal. The attention of several buyers has been directed to this fact and the explanation given is that owing to the high price of labour and the limited number of hogs handled, the work of slaughtering and curing cannot be done as economically as where labour is cheaper and larger numbers of hogs are available. The higher cost of supplies such as salt, spices and wood for smoking is also pointed to as a reason for this difference and the fact that owing to the closeness of grading as practised in the Eastern and American markets only about 10 per cent. of the hogs sold command the top price, while in Alberta practically 90 per cent. of the animals sold are taken at the highest price quoted.

Grading.

With a view to securing for the producers of prime hogs as near eastern prices as possible, an effort was made to induce buyers of live stock to classify their purchases more closely and to quote a higher price for animals of the best quality, but thus far without avail.

Loss of Pigs.

An extended inquiry was made through the principal swine producing sections of the province with a view to ascertaining if possible the cause of the high rate of mortality among young pigs. From the information obtained, it is evident that in many instances this loss is attributable to the lateness of the season and to insufficient shelter. There is little doubt however that a great deal of it is caused by too liberal feeding and insufficient exercise on the part of the dam. Feeding the dam largely on barley or wheat is also responsible for a part of the difficulty. This matter was taken up with the J. Y. Griffin Co. of Edmonton with a view to ascertaining whether the feeding of packing house by-products rich in protein and phosphates to the sow during pregnancy would tend to reduce the danger of loss of offspring, and an arrangement has been made whereby a ton of Swift's Digester Tankage has been placed at the disposal of the writer for experimental purposes. Six swine breeders have agreed to separate three sows from the remainder of their herds and feed tankage according to directions in lieu of a portion of the grain ration, and report to the Department the result of the experiment.

Pork Packing Plant.

At the last session of the Legislature the sum of \$50,000 was set aside for the purpose of erecting a pork packing plant in accordance with the recommendations of the Pork Commission filed with the Minister on January 7th, 1909, as soon as a reasonable assurance has been obtained that a supply of 50,000 hogs per year would be available. Draft contracts of pledges of patronage to be signed by the swine growers were sent out to a number of breeders and officers of the United Farmers of Alberta but owing to a difference of opinion as to what should constitute a "reasonable assurance" nothing in that direction was accomplished.

IV.—THE SHEEP INDUSTRY.

There is probably no branch of the live stock industry more worthy of serious attention at the present time than that of wool and mutton production. From the standpoint of the production of long wool, the sheep industry in Alberta has at the present time few attractions. The price paid in 1909 to the growers of long wool was from 9 cents to 10 cents per pound, that paid to the growers of short wool was from 12½ cents to 13½ cents per pound, both prices being practically the American price less the amount of the American duty. On the ranges sheep have long been and are doubtless destined for many years to be looked upon as outcasts. This fact must be borne in mind when dealing with sheep raising as a ranching proposition. As the horse and cattle men are being rapidly crowded from the ranges by the grain growers, it would be unwise to further curtail their pastures by permitting the grass to be eaten down by sheep. If then, the sheep rancher is to remain in business, new pastures must be secured which are not accessible by the horse and cattle men or are for various reasons not well adapted to horse and cattle raising. There remain about 85,000 sheep on the ranges in Alberta.

Summer Pastures.

Attention has been called to the fact that there are numerous tracts above the foothills into which, because of the extremely rough nature of the land, and because the vegetation there consists almost entirely of weeds, wild flowers and shrubs, and because of the further fact that these tracts are infested with certain species of flies and gnats which greatly annoy horses and cattle but do not disturb sheep to any extent, the sheep ranchers should be permitted to take their flocks during the summer months. An examination of the country between the Belly River and the Waterton lakes and lying immediately north of the international boundary was made in August last. This tract consists of a series of elevations, too steep to ascend except on foot or by pack train. There is little grass growing above the valley of the Belly River or the margin of the Waterton lakes; some hay was however being cut in the valley of the Belly River. This valley is about one-half mile wide. The only animals seen grazing in it were the pack horses of a company of United States surveyors who were engaged in re-surveying the international boundary. There was little grass growing on the hill and mountain sides, but there was a dense growth of weeds, wild flowers and shrubs practically all of which are said to be readily eaten by sheep and afford excellent

pasturage during the months of June, July and August and a part of September. Upon the flat lands adjoining the Waterton lakes a few cattle were seen on the open prairie. It was estimated that the area here unsuitable to horse and cattle growing would in an ordinary season provide three months parturage for 25,000 sheep. It was decided to make no recommendations on the subject nor to ask for any changes in existing regulations governing the grazing of sheep on Dominion lands until further investigation had been made and the Department of Agriculture at Ottawa had been interviewed with a view to securing its co-operation and support.

Mutton Production.

There is little doubt that eventually the sheep growers of Alberta will be farmers rather than ranchers and that the meat producing side of the business will be given more attention than at present obtains. The fact that a large portion of the mutton consumed in Alberta and practically all of that consumed in British Columbia is of Australian production is evidence that our flocks may be greatly increased in size and number before there is any danger of over-production. As near as can be ascertained the total number of sheep on Alberta farms is about 25,000 head.

The greatest hindrances to sheep raising on the farms of Alberta are coyotes and the cost of fencing material. Through the bounty system which has been in vogue during the past three years, the number of coyotes in the province has been greatly reduced. Reports of losses however are still being received though these losses are by no means great.

Fencing.

The difficulty of fencing remains. Though the price of sheep proof fencing has been materially reduced during the past few years, it is still sufficiently high to cause the ordinary stockman to pause before undertaking to enclose any considerable area with it. With a view to securing still further reductions in the price of fencing material, a personal investigation has been made as to the extent to which the price is likely to be affected by customs duty. It was found that numbers 9, 12 and 13 gauge galvanized wire are admitted free of duty. All other sizes are dutiable at 20 per cent. As a result of the above classification several styles of fencing which use gauges numbers 7, 10, 11 and 14 are rendered more expensive to the extent of from 5 cents to 10 cents per rod.

Another factor which contributes largely toward enhancing the price of fencing material is that of freight. Numerous plans have been submitted whereby the Provincial Government might assist the farmers in securing coyote proof fences and thereby encourage the sheep and incidentally the swine industry of the province. What would appear to be the most feasible plan thus far submitted is that of offering a bounty equal to the freight on the material used in building a coyote proof fence constructed according to plans and specifications to be adopted by the Department and wholly enclosing an area of not less than ten acres.

V.—FAT STOCK SHOWS,—CHICAGO AND GUELPH.

Acting upon instructions from the Hon. Minister of Agriculture, the live stock commissioner visited the fat stock shows at Chicago, Illinois, U.S.A., and Guelph, Ontario.

The types of animals shown were observed and the methods of feeding adopted by exhibitors were inquired into.

At both fairs, the beef cattle shown were almost without exception of the compact, thickly fleshed and short legged type.

Fitting.—Those exhibited at Chicago were more highly fitted than those shown at Guelph, many bearing evidence of pampering to the point of endangering breeding power. The feeds principally in evidence during feeding hours were alfalfa hay, sugar beets, bran, corn meal and ground oil cake.

Grooming.—It was very apparent that the Americans pay more attention to the matter of grooming cattle intended for exhibition than do the Canadians. This part of the work of preparing show cattle is carefully attended to, and is worthy of imitation in Alberta.

Percherons.—As regards horses, the well known difference of opinion between the Americans and Canadians as to the best type and the merits of the various breeds of draft and agricultural horses was discernible in the breeds given the prominent position at these two fairs. At Chicago, the Percherons were again the favourites and largely in the majority. The Clydesdales with the exception of a few stallions (some of which were shown by Canadians) and the three and six horse teams shown by Morris & Co. of Chicago, made an indifferent showing.

Clydesdales.—It is said, however, that the American horse breeders are beginning to adopt the standard of excellence fixed by the Clydesdale breeders as regards conformation of bone and hock and directness of action. At Guelph the Clydesdales made a splendid display far surpassing the exhibit made at Chicago. There were also a few excellent Shires there which were greatly admired.

Sheep.—There was little difference in the class of sheep shown in Chicago and Guelph. Many of the exhibitors at the latter place had previously won honours at the former. The standards of excellence adopted by the breeders of the United States and Canada being the same and the foods used being similar it naturally followed that there was little difference in the character of the display of this class of animals.

Feeds.—When observing the feeds used on the grounds, by the feeders of the prize winners they were found to be alfalfa or clover hay, roots, cabbage and bran and ground oats.

Swine.—In the swine departments there was a marked difference in the type of animals exhibited at these fairs. In Chicago the lard types predominated very largely and even individuals of the bacon types were fed to a much greater weight than obtains in Canada, especially Ontario. The Poland Chinas continue to be the favourites but it is worthy of remark that neither the Ohio nor the Iowa State Colleges, the principal state institutions which exhibited swine, had any Poland Chinas among the animals exhibited by them. The Ohio institution is breeding only Berkshires and Yorkshires; the Iowa Berkshires and Duroc Jerseys. Some effort was made to ascertain the feeds used and the methods of feeding adopted by them. It was found that though both used the same foods, their methods were dissimilar. At the Iowa station, the hogs were given the run of a pasture and they had access to buttermilk, corn and tankage at all times. At the Ohio station, they were confined in small lots and were fed according to what they would "clean up." The Iowa lot seemed to win most favour with the judges, but had the animals been shown at Guelph the decisions would probably have been re-

versed. A number of Canadian bred Berkshires were shown at Chicago but in most cases they were placed below the more highly fitted animals from the corn belt. The bacon type of swine, particularly the Tamworths, caused no little merriment to the onlookers at the judging ring. Judging by the remarks heard, there is little likelihood that either the Yorkshires or the Tamworths will ever become favourites in that country.

At Guelph the swine exhibited were largely Yorkshires. The Tamworths and Berkshires were well represented. There were no lard hogs exhibited there, though one party had a few pens of Chester Whites which he had attempted to transform into a bacon hog with indifferent success.

W. F. STEVENS,
Live Stock Commissioner.

9.—REPORT OF THE PROVINCIAL HEALTH OFFICER.

SIR,—I beg to submit returns bearing upon public health, as reported to this office during the year ending December, 1910.

I.—PROVINCIAL BOARD OF HEALTH.

The board sat three times during the year in compliance with The Public Health Act and transacted public business of whatever nature came before it, which was within its scope.

Careful attention was given to framing amendments to The Health Act, which upon completion were laid before the Legislative Assembly. They were, however, withdrawn for reasons which it is not necessary to give here. These amendments will be introduced again at the next session of the Legislature with the hope that they will be passed, as it is most important that certain necessary changes be made in the Act, in order that the general health of the public be best safeguarded.

The board brought to the attention of the Government the necessity of establishing a small experimental station in connection with sewage purification, and a small grant asked for in order that this may be carried out. The following is the resolution of the board with respect to the foregoing:

“The Provincial Board of Health has for several reasons, financial and otherwise, exercised the discretionary power conferred on it in sub-section 2, Section 24 of The Public Health Act and has not urged the construction of sewage disposal works, but the time has now arrived when in the interests of public health it is necessary that steps be taken to conserve the purity of the streams of the province; and further, many of the municipalities are now in a position to comply with the wishes of the Board in this respect, and some are desirous of knowing the names and operation of the various systems which are likely to secure the approval of the board, therefore we would respectfully request your careful consideration of the following statement and proposal:

“The Royal Commission on sewage purification appointed by the Parliament of the British Isles has now made in all six reports with fourteen appendices from investigations and experiments covering the past eleven years. These investigations and experiments were conducted solely with a view to obtaining information with reference to the purification of sewage and other polluting liquid to the condition of freedom from as much of its organic matter as is practically possible, in order that such liquid could be discharged into streams without creating a nuisance, but no attempt was made to purify sewage to the condition of sterility or freedom from bacteria, owing to the fact that the riparian owners of the streams have for many years used the streams as drainage canals for the conveyance of trade and other wastes rather than as water supplies and wish to continue the use of them as drainage canals, their water supplies being usually obtained from highland gathering grounds, lakes, etc.

“In the United States, the Massachusetts State Board of Health and the Ohio State Board of Health have made investigations and experiments with a view to obtaining information with reference to the purification of sewage and other polluting liquid to the condition of sterility or freedom from bacteria in order that such liquid could be discharged into streams without creating a menace to the health of those obliged to use such streams for water supply purposes.

“The methods used in the British Isles before outlined are septic or sedimentation tanks for primary treatment, and ordinary contact beds or sprinkling filters for secondary treatment.

“The methods used in the United States for the purpose before outlined are septic or sedimentation tanks for primary treatment, and intermittent sand filtration for secondary treatment. Our conditions more nearly approximate those existing in the United States than elsewhere, and we thus would be inclined to favour

the adoption of the American method, but the cost of a system constructed on the intermittent sand filtration method is prohibitive, while it is theoretically possible, it is practically impossible, we thus are obliged to discard it.

"You will have noticed that the primary treatment in the British Isles and in the United States are similar. Now in the most recent report of the Royal Commission on sewage disposal the primary treatment by means of septic tanks is declared to be inadequate, a digestion of only twenty-five per cent. of the organic matter taking place, and in sedimentation tanks even less, therefore, with a desire to avoid the use of either of these inadequate tanks and at the same time to eliminate the ordinary contact beds on account of their high cost and poor digestive power, and sprinkling filters on account of their liability to freeze solid in winter and diffuse bacteria in the air in summer, and generally on account of the unsuitability of either for our climate and conditions, we have had placed before us by the sanitary engineer of the province a biological method which is, in his opinion, more suited to our climate and conditions than any other, a method which combines in one the primary and secondary treatment hitherto obtained by the use of septic or sedimentation tanks and ordinary contact beds, and has in addition a chamber wherein the effluent from the biological beds is sterilized before being discharged into a natural water course, this being necessary owing to the fact that it is now considered to be NOT the function of a sewage filter to remove bacteria from sewage. This system, including the sterilization chamber, can be constructed for one half the cost of any other system which will give reasonably good results, and will in addition digest the sludge, a thing which cannot be done by any other method.

"It is usually difficult to obtain sufficient land in a suitable location for sewage disposal works: the system recommended partially solves this difficulty also, about one half the area of land being required for it that would be required for any other system.

"There is a system of purification along similar lines to this one as far as biological action is concerned now coming into use in the British Isles, evidence of the utility of which we have had before us from undoubted authorities, and the fact that a works of this system is now being installed in the City of Belfast, for the construction of which the local Government Board of Ireland after holding a sworn inquiry have decided to lend a sum of about half a million dollars, would seem to substantiate the claim as to the utility of the method. The method placed before us by the Provincial Sanitary Engineer while along similar lines as to biological action is different in the character of the material used and in the apparatus employed. The difference in character of material is necessary in order to use local material and labour as well as to improve the biological action, and the difference in apparatus employed is in order to improve biological action and to meet local climatic conditions and very materially lessen expense.

"The matter of sewage purification and disposal is one of the greatest possible importance, and is and has been engaging the attention of every civilized country in the world, but so far without a really satisfactory solution. Up to a short time ago the means adopted by those sanitarians looking for the highest standard possible in sewage purification was those of intermittent sand filtration, but the idea that it is possible by means of sand, screened and graded to a certain co-efficient of uniformity, to strain the germs of disease out of a sewage effluent, or even to starve them in it, while it may be partly possible on small experimental works is wholly impossible in actual practice, apart altogether from the prohibitive cost of such a system. It is now generally thought that the object to aim at is the practical and cheap one of removing from sewage as much of the decomposable organic matter as is possible in order to prevent its deposit on river banks, and of treating the effluent with a germicide such as chloride of lime or bleaching powder. It has been shown by experiments made at the Massachusetts Institute of Technology in Boston, and by Dr. Rideal's experiments at Guildford, England, that five parts of available chlorine per million, i.e., two ounces of commercial bleaching powder per thousand imperial gallons will destroy 99.96 per cent. of the total bacteria, and practically all of the bacillus coli present in a sewage effluent which has been freed to a reasonably practicable extent from decomposable organic matter, and this is practically a guarantee that it will destroy all the disease producing germs, including typhoid germs, present in a sewage effluent, and this is the object of the system placed before us by the Provincial Sanitary Engineer, which system commends itself so highly to us, and the method has the endorsement of such high authority that we feel constrained and believe it our duty to give it serious consideration and investigation.

"We would suggest the construction of a small demonstration works either entirely Government owned or in conjunction with the City of Edmonton at their outfall works in order to test the merits of the system beyond question. The City of Edmonton have a tank which they are not using at present that could be utilized for the purpose, and the city engineer assures us that we may have the use of it; to use it would be the quickest means at our disposal and this we may decide to do, as we believe it is our duty in the interests of the Province, in the probable saving

of hundreds of thousands of dollars to municipalities, and in the maintenance of the purity of our streams to make this investigation with the least possible delay, and we would recommend that an appropriation of five thousand dollars be made for the purpose, and that the investigation be carried out under the direction of the Provincial Board of Health by the salaried officials of the Board and the Professor of Applied Science of the University of Alberta."

During the year the board issued an order to all municipalities within the province, having sewerage systems in use, that after the 31st December, 1910, no sewage will be permitted to enter any stream or river without purification.

II.—CONTAGIOUS AND INFECTIOUS DISEASES.

There were in all throughout the whole province, during the year, 2,820 cases of contagious and infectious diseases as shown in appended tables. To this is also added a table giving the mortuary statistics for the year, arranged according to the Bertillion system.

TYPHOID FEVER.
(Within Municipalities)

POST OFFICE	SEX		MONTH												AGE						TOTAL		
	M.	F.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	0-1	1-4	5-14	15-24	25-44	45-59		60-69	70-OV.
Calgary..	42	9	1			1		1		1	15	26	5	1			14	14	23				51
Cardston	2	6									2								2				2
Clareholm	8	1						2			5	7					1	4	8	1			14
Didsbury.	2	1									1	1	1				1		2				3
Daysland.																							
Edmonton	155	72	1	1	28	8	7	8	16	28	47	29	17			32	32	83	99	3			227
Fort Saskatchewan	2	5				1	3		1	2						1	2	2	2	1			7
High River.....	18	2							1	5	3	10	2					9	8	4			21
Innisfail...																							
Lacombe.	3	2						1		2	2								4	1			5
Leduc.....																							
Lethbridge	41	12	2			8	4		4	6	14		1				6	26	23	4			53
Macleod																							
Medicine Hat	26	11			2	1		2	2		17	9	2	2			2	12	19	2			37
Okotoks..												1	13		1		1	6	2	6	2		15
Olds	7	8									1								2	2			4
Pincher Creek	4									3	1								1				1
Ponoka.....	1										1												2
Raymond.																							
Red Deer	2								1		1							1	1				2
St. Albert																							
Stettler	9	4					1				3							4	7				13
Strathcona																							
Taber	3	5						2			1						2	4	2				8
Vegreville.																							
Vermilion.	3	2																4	1				5
Wetaskiwin																							
Totals	328	140	23	14	30	19	15	18	18	25	95	175	30	27		14	67	150	210	16			468

SMALLPOX.
(Within Municipalities)

POST OFFICE	SEX		MONTH												AGE						TOTAL		
	M.	F.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	0-1	1-4	5-14	15-24	25-44	45-59		60-69	70-ov.
Calgary.	26	8	11	4	1		3						5	10	1		5	10	16	2			34
Cardston																							
Clareholm.																							
Daysland	13	13		1		7	6			3	6	2				6	10	3	7				26
Didsbury.																							
Edmonton		1					1											1					1
Fort Saskatchewan																							
High River																							
Innisfail	1		1																1				1
Lacombe.	1	1	2																				2
Leduc.																							
Lethbridge																							
Macleod	1	1	1		1													1					2
Medicine Hat																							
Okotoks.																							
Olds	1	2					1	1	1									2				1	3
Pincher Creek																							
Ponoka.																							
Raymond																							
Red Deer																							
St. Albert																							
Stettler																							
Strathcona	10	5	4	11													3	6	6				15
Taber																							
Vegreville.																							
Vermilion																							
Wetaskiwin																							
Totals.	53	31	19	16	2	7	10	2	1	3	6	3	5	10	1	7	20	23	30	2		1	84

CHICKENPOX.
(Within Municipalities)

POST OFFICE	SEX.		MONTH												AGE						TOTAL			
	M	F	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	0-1	1-4	5-14	15-24	25-44	45-59		60-69	70-ov.	
Calgary ..	7	7	2	1	1		1		1			3	3	1	1	3	10							14
Cardston ..	14	10										24				5	17	2						24
Clareholm ..																								
Daysland ..																								
Didsbury ..	4			4													3							4
Edmonton ..	9	13	1			4	5	2	1	5		2		2	1	8	12	1						22
Fort Saskatchewan ..																								
High River ..	3	3										1	4	1	1	1	4	1						6
Innisfail ..																								
Lacombe ..																								
Leduc ..																2	4	1						7
Lethbridge ..	7		4			1			2															
Macleod ..																								
Medicine Hat ..	2	2	4												1		3							4
Okotoks ..		1			1											1								1
Olds ..																								
Pincher Creek ..																								
Ponoka ..																								
Raymond ..	2	2		4												2	2							4
Red Deer ..	1								1							2	1							1
St. Albert ..																								
Stettler ..	4	4	6	2	2											1	6	1						8
Strathcona ..																								
Taber ..	1	2	1	2												2	1							3
Vegreville ..																								
Vermilion ..																								
Wetaskiwin ..																								
Totals ..	50	48	23	9	2	5	6	3	4	5		30	7	4	3	26	63	6						98

DIPHTHERIA.
(Within Municipalities)

POST OFFICE	SEX		MONTH												AGE						TOTAL	
	M.	F.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	1 4	5 14	15 24	25 44	45 59	60-69		70 ov.
Calgary ...	13	14	3	3	7	2	1	1	3	2	1		1	3	0	5	9	7	4	2		27
Cardston																						
Clareholm																						
Daysland																						
Didsbury																						
Edmonton	4	5				4	2	1														
Fort Saskatchewan	9	17			1	2	4		4	1	1		5	3	2	3	7	8				9
High River		2			1																	2
Innisfail																						
Lacombe																						
Leduc		5																				
Lethbridge	10	3	2	3	1		2		5	1												
Macleod	1	4			1	4							2	1	1	1	5	4		1		
Medicine Hat																						
Okotoks	2	2	1	1	2			1							1	1	2	2				
Olds																						
Pincher Creek		1					1											1				
Ponoka																						
Raymond																						
Red Deer																						
St. Albert																						
Stettler																						
Strathcona																						
Taber	2				1			2		1	4	1						1	1			2
Vegreville																						
Vermilion	2	6					2															
Wetaskiwin																						
Totals	43	61	7	7	14	12	12	3	13	8	4	8	7	9	1	18	32	24	3			104

SCARLET FEVER.
(Within Municipalities)

POST OFFICE	SEX	MONTH												AGE						TOTAL		
		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	0-1	1-4	5-14	15-24	25-44	45-59		60-69	70-ov.
Calgary	40	41	3	4	4	10	12	4	2	5	7	15	9	5	2	26	33	12	7	1		81
Cardston			8	4					1						1	5	3	2	2			13
Clareholm	9	4																				
Daysland																						
Didsbury						3	20	10	7	3	10	5	6	14	1	16	46	9	6			78
Edmonton	40	38																				
Fort Saskatchewan																						
High River	7	4		4											1	4	4	2				11
Innisfail																						
Lacombe	1								1													1
Leduc	43	45	10	10	12	28	16	1	1	2				7	1	17	34	26	10			88
Lethbridge	23	18	2	4	12	11	4	3	1		3	1			1	11	17	9	1			41
Macleod	3	8		3	5		3								1	1	5	3	1			11
Medicine Hat	7	5		3	3			6								6	5	1				12
Okotoks																						
Olds																						
Pincher Creek																						
Ponoka	1	2													1	2						3
Raymond																						
Red Deer																						
St. Albert	9	6			4	6	5				1					5	7	2	1	1		15
Stettler	1																					1
Strathcona	1	1																				2
Taber	1	1		1		1										1	1	1				1
Vegreville	2	1																				3
Vermilion																						
Wetaskiwin																						
Totals	187	174	23	33	41	63	61	24	12	10	21	21	21	31	9	95	160	66	20	2		361

MEASLES.
(Within Municipalities)

POST OFFICE	SEX		MONTH												AGE						TOTAL
	M.	F.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	AGE						
															1-4	5-14	15-24	25-44	45-59	60-69		70-ov.
Calgary	35	28	2	1	4	1	7	11	11		1	1	10	14	1	12	18	14			63
Cardston	11	12					7	12								8	12	1			23
Claresholm	1	2		2												1	2				3
Daysland																					
Didsbury	1																				1
Edmonton	44	40	1	1	1	1	3	7	7				2		5	31	10	6			84
Fort Saskatchewan	4	1														1					5
High River	1															1					1
Innisfail																					
Lacombe	1																				1
Leduc																					1
Lethbridge	148	149	1	6	22	30	21	1	1						21	15	44	20			297
Macleod	1	1													1	1	1				2
Medicine Hat	9	5													2	2	2	3			14
Okotoks																					
Olds																					
Pincher Creek	14	6					2	17		1						3	2	7			20
Ponoka																					
Raymond																					
Red Deer	2	7			1						8				2	4	3				9
St. Albert																					
Stettler	3	3					3	1							1	2	1	2			6
Strathcona																					
Taber																					
Vegreville	2	3										5						1			5
Vermilion	1														1						1
Wetaskiwin																					
Totals	278	258	2	122	132	39	51	39	36	13	9	15	33	18	34	131	234	81	55	1	536

ERYSIPELAS.
(Within Municipalities)

POST OFFICE	SEX		MONTH												AGE							TOTAL	
	M.	F.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	0-1	1-4	5-14	15-24	25-44	45-59	60-69		70-89
Calgary																							
Cardston																							
Clareholm																							
Daysland																							
Didsbury																							
Edmonton	15	5		3	3	2	1	1	1	1	1	2		2	1		1			4			20
Fort Saskatchewan																							
High River																							
Innisfail																							
Lacombe																							
Leduc																							
Lethbridge																							
Macleod																							
Medicine Hat																							
Okotoks																							
Olds																							
Pincher Creek																							
Ponoka																							
Raymond																							
Red Deer																							
St. Albert																							
Stettler																							
Strathcona																							
Taber																							
Vegreville																							
Vermilion																							
Wetaskiwin																							
Totals	15	5	3	3	3	2	1	1	1	1	1	3		2	1		1	3	9	4	2		20



JUDGING CLYDESDALE STALLIONS AT AN ALBERTA EXHIBITION.



JUDGING PERCHERON STALLIONS AT AN ALBERTA EXHIBITION.

TUBERCULOSIS.
(Within Municipalities)

POST OFFICE	SEX		MONTH												AGE							TOTAL
	M.	F.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	0-4	5-14	15-24	25-44	45-59	60-69	70-ov.	
Calgary.																						
Cardston...	1	1			1		1															2
Clareholm																						
Daysland..																						
Didsbury.																						
Edmonton.	3	4	1	1	1		1	2	1	1				1		5	6	1				12
Fort Saskatchewan																						
High River																						
Innisfail.	1						1									1						1
Lacombe																						
Leduc.	1						1										1					1
Lethbridge	2					2								1		1	4					5
Macleod.																						
Medicine Hat																						
Okotoks.		1		1													1					1
Olds.....																						
Pincher Creek	1						1										1					1
Ponoka																						
Raymond																						
Red Deer																						
St. Albert		1				1													1			1
Stettler																						
Strathcona																						
Taber....	2							2											2			2
Vegreville	2																					2
Vermilion..																						
Wetaskiwin																						
Totals	18	10	1	3	3	3	5	4	1	1	1	4	1	1		10	14	4	4			28

MUMPS.
(Within Municipalities)

POST OFFICE	SEX		MONTH												AGE						TOTAL			
	M.	F.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	0-1	1-4	5-14	15-24	25-44	45-59		60-69	70-ov.	
Calgary...																								
Cardston																								
Clareholm..																								
Daysland																								
Didsbury	1																	1						1
Edmonton	86	65	2	77	1	40	22	4	2	3				1	3	1	114	26	7					151
Fort Saskatchewan																								
High River..																								
Innisfail	2						2										2							2
Lacombe																								
Leduc	2	8					5	9			1						10	4	2					16
Lethbridge																								
Macleod																								
Medicine Hat																								
Okotoks ...																								
Olds																								
Pincher Creek																								
Ponoka																								
Raymond																								
Red Deer																								
St. Albert.																								
Stettler																								
Strathcona																								
Taber.																								
Vegreville.	1				1													1						1
Vermilion																								
Wetaskiwin																								
Totals.	98	75	2	78	40	30	13	2	2	3	1			2	3	1	126	32	9					171

WHOOPIING COUGH.
(Within Municipalities)

POST OFFICE	SEX		MONTH												AGE						TOTAL	
	M	F	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	0-4	5-14	15-24	25-44	45-59	60-69		70-ov.
Calgary.		1									1						1					
Cardston..																						
Claresholm																						
Daysland																						
Didsbury.																						
Edmonton.	1								9					1								
Fort Saskatchewan																						
High River	5	4														1	5	3				9
Innisfail..																						
Lacombe																						
Leduc																						
Lethbridge ..																						
Macleod.	1	2				3										1						3
Medicine Hat	1	1							2							1	2					3
Okotoks																						
Olds....																	1					
Pincher Creek																						
Ponoka																						
Raymond.																						
Red Deer																						
St. Albert																						
Stettler ..																						
Strathcona.																						
Taber.....																						
Vegreville.																						
Vermilion..																						
Wetaskiwin.																						
Totals.	8	8	3	3	3	3	3	3	11	1	1	1	1	1	3	7	6					16

GERMAN MEASLES.
(Within Municipalities)

POST OFFICE	SEX		MONTH												AGE						TOTAL		
	M.	F.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	0-1	1-4	5-14	15-24	25-44	45-59		60-69	70-ov.
Calgary..	5	2				3					3			1		1	1	1	1	4			7
Cardston																							
Clareholm																							
Daysland																							
Didsbury																							
Edmonton	2												2				1	1					2
Fort Saskatchewan.																	1						1
High River.....	1						1										1						
Innisfail																							
Lacombe																							
Leduc																							
Lethbridge	7	2					2	1								1	2	4	2				15
Macleod																							
Medicine Hat																							
Okotoks																							
Olds																							
Pincher Creek																							
Ponoka																							
Raymond																							
Red Deer																							
St. Albert																							
Stettler																							
Stratheona																							
Taber																							
Vegreville																							
Vermilion																							
Wetaskiwin		1			1											1							1
Totals	15	11			1	4	8	7			3		2	1		3	11	6	6				26

TYPHOID FEVER.

(Outside Municipalities in the following Districts)

POST OFFICE	SEX		MONTH												AGE						TOTAL		
	M.	F.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	0-1	1-4	5-14	15-24	25-44	45-59		60-69	70-ov.
Calgary	59	9	..	..	..	1	2	2	2	2	2	33	13	4	9	3	9	11	40	5	..	..	68
Cardston	4	9	..	3	1	..	..	..	..	1	4	2	1	1	1	1	1	7	1	3	..	..	13
Clareholm	1	1	..	..	..	..	..	..	..	..	1	1	1	1	7	..	..	..	1	..	..	..	2
Daysland	23	11	..	2	9	..	1	3	..	..	10	1	1	1	1	1	17	9	8	..	1	..	34
Didsbury	2	2	..	1	1	..	..	1	1	..	..	..	..	..	..	1	2	2	1	1	..	..	4
Edmonton	9	3	..	..	..	..	..	6	1	4	7	..	..	..	..	..	5	2	4	1	..	..	12
Fort Saskatchewan	3	4	..	..	..	..	..	2	1	1	1	1	3	..	..	2	2	2	3	..	..	..	7
High River	5	2	..	..	..	..	..	..	..	..	..	..	..	..	..	2	3	2	..	..	..	..	7
Innisfail	1	3	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	4	..	..	..	4
Lacombe	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Leduc	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Lethbridge	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Macleod	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Medicine Hat	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Okotoks	5	6	..	..	..	..	2	3	..	1	2	..	..	3	..	1	1	5	5	..	..	..	11
Olds	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	1	2	..	..	..	4
Pinehear Creek	9	5	1	..	1	..	1	1	1	1	4	7	..	..	..	..	3	7	2	2	..	..	14
Ponoka	..	1	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	..	..	1
Raymond	..	..	..	..	..	..	..	..	1	11	2	..	..	1	..	..	3	7	4	1	..	..	15
Red Deer	13	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
St. Albert	15	9	..	..	..	..	..	..	1	11	2	..	..	3	..	1	1	11	9	1	2	..	24
Stettler	..	..	..	..	..	..	..	..	..	..	9	5	6	3	..	..	..	..	..	..	..	..	..
Strathcona	10	2	..	..	..	..	2	3	..	..	1	1	1	..	..	1	2	3	6	..	..	..	12
Taber	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Vegreville	3	2	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	1	1	..	..	..	5
Vermilion	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Wetaskiwin	4	3	1	1	..	..	..	..	1	..	..	1	4	2	..	..	1	1	5	..	..	..	7
Totals	170	75	21	9	12	1	8	20	4	22	79	39	20	29	1	9	57	63	102	10	3	..	245

SMALLPOX.

(Outside Municipalities in the following Districts)

POST OFFICE	SEX		MONTH												AGE						TOTAL		
	M.	F.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	0-1	1-4	5-14	15-24	25-44	45-59		60-69	70-ov.
Calgary.	7	1	4										1	3			1	5	2				8
Cardston.																	1						8
Clareholm	7	1	7		1												7	5	9				22
Daysland	11	11	3		13				3								5						
Didsbury.																							
Edmonton																							
Fort Saskatchewan	1	1	1		1													2					2
High River																		1					1
Innisfail.																							
Lacombe																							
Leduc.																							
Lethbridge.																							
Macleod	4								4									1		2	1		4
Medicine Hat																							
Okotoks																							
Olds.																							
Pincher Creek							4							1									
Ponoka	5																		4				5
Raymond																							
Red Deer																							
St. Albert																							
Stettler																							
Strathcona																							
Taber.																							
Vegreville																							
Vermilion																							
Wetaskiwin	4							2												2			4
Totals.	39	15	15		15	4	2	6	3		4		1	4	3	1	12	12	22	2	1	1	54

CHICKENPOX.

(Outside Municipalities in the following Districts)

POST OFFICE	SEX		MONTH												AGE							TOTAL
	M.	F.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	0-4	5-14	15-24	25-44	45-59	60-69	70-ov.	
Calgary	1	1								1			1				1	1				2
Cardston																						
Clareholm																						
Daysland																						
Didsbury																						
Edmonton																						
Fort Saskatchewan																						
High River																						
Innisfail	2												2			2						2
Lacombe																						
Leduc																						
Lethbridge														7		7						7
Macleod, Hat																						
Medicine Hat																						
Okotoks																						
Olds																						
Pincher Creek																						
Ponoka																						
Raymond																						
Red Deer	1	2						3								2						3
St. Albert																						
Stettler																						
Strathcona																						
Taber		1						1									1					1
Vegreville																						
Vermilion	1	1												2								2
Wetaskiwin																						
Totals	5	12					4	1	1	3	9					11	2	1				17

DIPHTHERIA.

(Outside Municipalities in the following Districts)

POST OFFICE	SEX		MONTH												AGE						TOTAL		
	M.	F.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	0-1	1-4	5-14	15-24	25-44	45-59		60-69	70-ov.
Calgary..	5	2			1						3		2	1		2	2	2	1				7
Cardston..																							
Clareholm..										1				4		1	1	2	1				5
Daysland..	4	1				1								7		3	5	5					14
Didsbury.....	6	8	6								1					2	1	1					2
Edmonton.....	1	1											6	1		3	5	2					3
Fort Saskatchewan		3			1	1										2	1						8
High River	5	3														3	5						8
Innisfail	1	1			1						1		7			2	4	1					2
Lacombe	4	4														2	5						7
Leduc.....	6	1					5	2								1	4						2
Lethbridge..		2		1				1								1	1						3
Macleod	1	2														1							2
Medicine Hat		1					1							3		1							1
Okotoks	3			2		1																	3
Olds																							
Pincher Creek		4				5	3	1				1	2	1		1	6	5	1				13
Ponoka	9																						
Raymond.		2	1										2			1	2						3
Red Deer	1	2					2										2						2
St. Albert.																							
Stettler....	1												1						1				1
Strathcona																							
Taber.....		1					1																
Vegreville.	3	2					1									2	3						5
Vermilion																							
Wetaskiwin.	6	7	7	3	2	12	13	8				5	2			2	8	1	2				13
Totals	56	47	7	3	2	12	13	8	1	8	6	20	23	1	23	50	17	10	2				103

SCARLET FEVER.
(Outside Municipalities in the following Districts)

POST OFFICE	SEX		MONTH												AGE						TOTAL		
	M.	F.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	0-1	1-4	5-14	15-24	25-44	45-59		60-69	70-ov.
Calgary.	13	18	1	1	4	4	5			4	4	3	3	5		7	19	4			1		31
Cardston		2	1	1	1											1	1						2
Clareholm	7	7	1	5	5	2			1							2	9	3					14
Didsbury	1	1	1													1	1						1
Daysland	1	1	1	1													1						1
Edmonton																	1						1
Fort Saskatchewan	2	1														1	1						1
High River.....	11	8			8		2		1					1		4	12	2	1				19
Innisfail..																	1						2
Lacombe	5	6	3													4	4	3					11
Leduc.	1	2				1			2							2	2		1				3
Lethbridge	2	10		2	5	3	2									4	4						12
Macleod..	15	17		17	4	1		9			1				2	7	15	6	2				32
Medicine Hat.																							
Okotoks. . . .	11	8		5		3	4	7								6	11	2					19
Olds.....	1	1			1	1		1									1	1					2
Pincher Creek	1																						1
Ponoka . . .																							
Raymond	6	3				7	2								1	3	3	1	1				9
Red Deer	1	1		2													2						2
St. Albert																							
Stettler..																							
Strathcona																							
Taber	2	1	2			1										1	1		1				3
Vegreville		2														1	1						2
Vermilion	6	2			6	1	1	1			2					2	3	2	1				8
Wetaskiwin	1	5		1		1	4									3	3						6
Totals	87	95	8	34	34	24	18	29	4	4	7	4	4	12	3	47	95	27	9	1			182

MEASLES.

(Outside Municipalities in the following Districts)

POST OFFICE	SEX.		MONTH												AGE					TOTAL		
	M.	F.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	1-4	5-14	15-24	25-44	45-59		60-69	70-ov.
Calgary	8	9	1	2	1	1	8	4						1	1	4	4	4	4			17
Cardston	4	5			1		8								1	2	2	2	2			9
Clareholm																						
Daysland	4	2					2							4								6
Didsbury	3	4									5	2			2	1	2	2	3			7
Edmonton	3	3																				3
Fort Saskatchewan	2	2			1		3										4					4
High River																						
Innisfail																						
Lacombe	1													1		1						1
Leduc																						
Lethbridge	3	3			6											1	2	3				6
Macleod	84	76	40	36	30	11	7	9	17	7					14	62	63	18	3			160
Medicine Hat																						
Okotoks		1												1				1				1
Olds		6			4			11								3	8	2	2			15
Pincher Creek	9																					
Ponoka	1							1								1	1					1
Raymond	3	1					4									1	3	1				4
Red Deer	1	1						2								1						2
St. Albert	1	1																1	1			2
Stettler								2														
Strathcona																						
Taber	1																					
Vegreville		2			2											1	1		1			2
Vermilion																						
Wetaskiwin																						
Totals	125	116	41	38	44	13	14	43	17	11	5	2	5	8	18	78	92	40	13			241

ERYSIPELAS.
(Outside Municipalities in the following Districts.)

POST OFFICE	SEX		MONTH												AGE						TOTAL		
	M.	F.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	0-1	1-4	5-14	15-24	25-44	45-69		60-69	70-ov.
Calgary	2							1							1					2			
Cardston																							
Clareholm	1																			1			
Daysland	2							1															
Didsbury																							
Edmonton																							
Fort Saskatchewan																							
High River																							
Innisfail																							
Lacombe																							
Leduc																							
Lethbridge																							
Macleod																							
Medicine Hat																							
Okotoks																							
Olds																							
Pincher Creek																							
Ponoka																							
Raymond																							
Red Deer																							
St. Albert																							
Stettler																							
Strathcona																							
Taber																							
Vegreville																							
Vermilion																							
Wetaskiwin																							
Totals	5							1	1		2			1					1	3	1		5

TUBERCULOSIS.
(Outside Municipalities in the following Districts)

POST OFFICE	SEX		MONTH												AGE							TOTAL	
	M.	F.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	0-1	1-4	5-14	15-24	25-44	45-59	60-69		70-ov.
Calgary ..	7	2			1	1			1	1		1		1				5	3	1			9
Cardston ..																							
Clareholm ..																							
Daysland ..	2		1	1														1					2
Didsbury ..																							
Edmonton ..	5	1		1	1		1	1	1	1	1			1				2	5	1			6
Fort Saskatchewan	3	3	1		1									1				1					6
High River ..																							
Innisfail ..	1																		1				1
Lacombe ..																							
Leduc ..																							
Lethbridge ..																		1					1
Macleod ..																							
Medicine Hat ..					2														1	1			2
Okotoks ..																							
Olds ..		2																					
Pincher Creek																							
Ponoka ..	1	2	1		1				1										1	1			3
Raymond ..																							
Red Deer ..																							
St. Albert ..																							
Stettler ..																							
Strathcona ..	1								1									1	1	2			1
Taber ..	1	2		1			1																3
Vegreville ..	1																						
Vermilion ..	1		1	1	1																		
Wetaskwin ..	2	1																					
Totals	25	14	4	4	7	1	5	4	5	3	2	1		3		1	1	14	15	7	1		39

MUMPS.
(Outside Municipalities in the following Districts)

POST OFFICE	SEX		MONTH												AGE						TOTAL		
	M.	F.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	0-1	1-4	5-14	15-24	25-44	45-59		60-69	70 ov.
Calgary																							
Cardston																							
Clareholm																							
Daysland																							
Didsbury																							
Edmonton																							
Fort Saskatchewan																							
High River																							
Innisfail	1																						
Lacombe	3																						
Leduc		3																					
Lethbridge							6																
Macleod																							
Medicine Hat																							
Okotoks																							
Olds																							
Pincher Creek																							
Ponoka																							
Raymond																							
Red Deer																							
St. Albert																							
Stettler																							
Strathcona																							
Taber																							
Vegreville																							
Vermilion																							
Wetaskiwin																							
Totals	6	4	2	6	2	6				1	1			1			8		2				10

WHOOPING COUGH.

Outside Municipalities in the following Districts)

POST OFFICE	SEX		MONTH												AGE						TOTAL		
	M.	F.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	0-1	1-4	5-14	15-24	25-44	45-59		60-69	70-ov.
Calgary.....																							
Cardston.....																							
Clareholm.....																							
Daysland.....																							
Didsbury.....																							
Edmonton.....																							
Fort Saskatchewan																							
High River.....																							
Innisfail.....																							
Lacombe.....																							
Leduc.....																							
Lethbridge.....																							
Macleod.....	4	2			1		2								3	1	3	2					6
Medicine Hat.....																							
Okotoks.....																							
Olds.....																							
Pincher Creek.....																							
Ponoka.....																							
Raymond.....																							
Red Deer.....																							
St. Albert.....	1	1						1						1	1	1							2
Stettler.....																							
Strathcona.....																							
Taber.....																							
Vegreville.....																							
Vermilion.....																							
Wetaskiwin.....																							
Totals	5	4	1	1	1	1	2	1	1				1	4	2	5	2						9

GERMAN MEASLES.
(Outside Municipalities in the following Districts)

POST OFFICE	SEX.		MONTH												AGE						TOTAL		
	M.	F.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	0-1	1-4	5-14	15-24	25-44	45-59		60-69	70 ov.
Calgary		1																					1
Cardston																							
Clareholm																							
Daysland																							
Didsbury																							
Edmonton	1				2													1					2
Fort Saskatchewan																							
High River																							
Innisfail																							
Lacombe																							
Leduc																							
Lethbridge																							
Macleod																							
Medicine Hat																							
Okotoks																							
Olds																							
Pincher Creek																							
Ponoka																							
Raymond																							
Red Deer																							
St. Albert																							
Stettler																							
Strathcona																							
Taber																							
Vegreville																							
Vermilion																							
Wetaskiwin																							
Totals	1	2			2									1	1			2					3

TOTAL NUMBER OF CONTAGIOUS AND INFECTIOUS DISEASES, WITHIN AND WITHOUT MUNICIPALITIES, OCCURRING DURING THE YEAR 1909.

POST OFFICE	SEX		MONTH												AGE						TOTAL		
	M.	F.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	0-1	1-4	5-14	15-24	25-44	45-69		60-69	70-ov
Typhoid Fever— Within Municipalities Without Municipalities Total	328 170 498	140 75 215	23 2 25	14 9 23	30 12 42	19 12 31	15 8 23	18 20 38	18 4 22	35 4 57	95 22 174	135 39 174	39 20 59	27 29 56	14 9 23	67 57 124	159 63 222	210 102 312	18 10 28	3 3 6	1 1 2	1 1 2	713
Smallpox— Within Municipalities Without Total	53 39 92	31 15 46	19 15 34	16 15 31	2 15 17	7 4 11	10 4 12	2 6 8	1 3 4	3 3 3	6 4 10	3 3 3	5 1 6	10 4 14	1 3 4	20 12 32	23 12 35	30 22 52	2 2 4	2 2 4	1 1 2	1 1 2	138
Chickenpox— Within Municipalities Without Total	50 5 55	48 12 60	23 9 32	9 2 11	2 5 7	5 6 11	6 3 9	3 4 7	4 4 8	5 1 6	30 7 37	7 4 11	3 3 6	4 13 18	3 9 12	26 11 37	63 11 74	6 2 8	24 10 34	3 3 6	3 3 6	1 1 2	115
Diphtheria— Within Municipalities Without Total	43 56 99	61 47 108	7 7 14	7 3 10	14 2 16	12 12 24	12 3 25	8 8 11	13 13 26	13 8 21	4 1 12	8 6 14	7 20 27	9 23 32	1 2 3	18 23 41	32 50 82	26 17 43	24 10 34	3 2 5	2 2 4	3 3 6	207
Scarlet Fever— Within Municipalities Without Total	187 87 274	174 95 269	23 8 31	33 34 67	41 34 75	63 24 87	61 18 79	24 29 53	12 4 16	10 4 14	21 7 28	21 4 25	21 4 25	31 12 43	9 3 12	95 47 142	160 27 255	66 93 181	29 9 38	2 1 3	2 1 3	2 1 3	543
Measles— Within Municipalities Without Total	278 125 403	258 116 374	29 41 70	122 38 160	132 44 176	39 13 52	51 14 65	39 43 82	36 17 53	13 11 24	9 5 14	15 2 17	33 5 38	18 8 26	34 18 52	131 92 209	234 40 326	81 13 121	55 13 68	1 1 1	4 1 5	2 1 3	777
Erysipelas— Within Municipalities Without Total	15 5 20	5 5 10	3 3 6	3 3 6	3 3 6	3 3 6	3 3 6	3 3 6	3 3 6	3 3 6	3 3 6	3 3 6	3 3 6	3 3 6	3 3 6	3 3 6	3 3 6	3 3 6	3 3 6	3 3 6	3 3 6	3 3 6	25

Tuberculosis—	18	10	1	3	3	3	5	4	1	1	1	4	1	1	1	1	1	10	14	4	..	..	..
Within Municipalities	25	14	4	7	1	5	4	5	3	2	1	1	1	3	...	...	1	14	15	7	1	..	..
Without	43	24	5	7	10	4	10	8	6	4	3	5	1	4	...	...	1	24	29	11	1	..	..
Total																							67
Mumps—	98	73	2	78	40	30	13	2	3	1	..	..	..	2	3	1	126	32	9	2	...	...	181
Within Municipalities	6	4	2	2	6	46	30	13	2	4	1	..	1	2	3	1	126	40	9	2	...	...	
Without	104	77	2	80	46	30	13	2	4	1	..	..	1	2	3	1	126	40	9	2	...	...	
Total																							
Whooping Cough—	8	8	..	1	3	2	1	11	1	1	..	..	1	1	3	7	6	..	..	..	..	..	..
Within Municipalities	5	4	..	1	2	1	1	1	1	..	..	..	1	4	2	5	2	..	..	..	..	..	..
Without	13	12	1	1	3	2	1	11	1	1	..	..	2	4	5	12	8	..	..	..	..	..	25
Total																							
German Measles—	15	11	..	1	4	8	7	..	..	3	..	..	2	1	1	3	11	6	6	..	..	..	..
Within Municipalities	1	2	..	2	2	4	7	..	..	3	..	..	1	1	1	..	..	2	2	..	..	..	..
Without	16	13	..	3	4	8	7	..	..	3	..	..	2	2	1	3	11	8	6	..	..	..	29
Total																							
Totals	1,617	1,203	202	297	425	259	263	230	132	123	248	271	171	199	84	469	1,040	598	561	59	7	2	2,820

CAUSE OF DEATH	AGE										SEX		NATIONALITY											MONTH												TOTAL			
	TOTAL	0 to 1	1 to 4	5 to 14	15 to 24	25 to 44	45 to 59	60 to 69	70 and over	Not Specified	M.	F.	Canadians	Americans	Scottish	Irish	English	French	German	Swedes	Norwegians	Austrians	Russians	Galicians	Others	Unknown	January	February	March	April	May	June	July	August	September		October	November	December
GENERAL DISEASES																																							
I.—COMMUNICABLE (Epidemic) Diseases.																																							
1. Typhoid Fever.	129	1	5	10	41	59	12	1	1	96	33	42	22	7	5	15	1	4	4	3	6	5	5	7	3	6	11	9	5	11	4	4	9	12	28	24	6	129	
2. Smallpox.	1	1	2	4	2	1	1	1	1	6	3	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3. Measles.	37	2	4	15	2	1	1	1	1	23	14	7	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	37	
4. Scarlet Fever.	28	20	8	1	1	1	1	1	1	12	16	22	9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	28	
5. Whooping Cough.	45	9	22	9	3	1	1	1	1	26	19	32	8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	45	
6. Diphtheria and Croup.	12	3	3	2	2	2	2	2	2	6	6	9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	12	
7. Influenza.	6	1	2	2	2	2	2	2	2	4	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6	
8. Other Epidemic Diseases.	19	2	1	2	1	7	5	1	1	9	10	8	1	1	1	4	1	1	1	1	1	1	1	2	1	3	1	1	1	4	3	1	1	2	3	1	1	1	19
II.—OTHER GENERAL DISEASES.																																							
1. Pyemia and Septicæmia.	212	5	9	15	59	95	22	5	2	117	95	112	20	13	2	20	3	1	6	6	7	3	8	7	4	13	22	29	23	25	14	20	16	10	18	14	8	212	
2. Malarial Fever.	51	1	1	1	1	9	20	12	9	30	21	15	4	6	2	10	2	1	2	3	2	1	1	2	1	3	4	3	4	1	6	4	7	4	5	1	1	1	51
3. Tuberculosis and Scrofula.	10	1	1	1	1	2	4	3	1	6	4	3	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	10
4. Syphilis.	9	1	1	1	1	1	1	1	1	6	3	3	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	9	
5. Cancer.	2	1	1	1	1	1	1	1	1	1	1	1	2	3	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	
6. Rheumatism and Gout.	10	1	1	1	1	2	4	3	1	6	4	3	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	10
7. Diabetes.	9	1	1	1	1	1	1	1	1	6	3	3	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	9	
8. Other General Diseases.	2	1	1	1	1	1	1	1	1	1	1	1	2	3	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	
9. Chronic Poisoning.	17	1	1	1	1	3	6	1	4	11	6	7	5	1	1	2	1	1	1	1	1	1	1	1	1	1	4	2	2	2	4	1	1	1	1	1	1	1	17
LOCAL DISEASES.																																							
III.—DISEASES OF NERVOUS SYSTEM AND ORGANS OF SENSE.																																							
1. Encephalitis.	3	1	1	1	1	1	1	1	1	2	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	
2. Simple Meningitis.	22	10	6	1	1	3	1	1	1	10	12	15	2	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	22
3. Epidemic Cerebro Spinal Meningitis.	17	6	5	5	1	1	1	1	1	8	9	12	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17	
4. Congestion and Hemorrhage of the Brain.	45	4	2	1	2	5	10	9	12	28	17	21	4	2	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	45	
5. Softening of the Brain.	4	1	1	1	1	1	1	1	1	3	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	
6. Paralysis without Specified Cause.	32	2	2	2	2	4	6	5	11	20	12	12	10	2	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	32	
7. Insanity.	11	1	1	1	1	2	3	3	1	4	7	4	3	1	1	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	11	
8. Epilepsy.	5	1	2	1	1	1	1	1	1	2	3	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5	
9. Convulsions (not puerperal or infantile).	17	1	2	1	1	3	6	1	4	11	6	7	5	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17	
10. Other Nervous Diseases.	17	1	2	1	1	3	6	1	4	11	6	7	5	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17	
IV.—DISEASES OF CIRCULATORY SYSTEM.																																							
1. Pericarditis.	3	1	1	1	1	1	1	1	1	3	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	
2. Endocarditis.	10	1	1	1	1	2	5	2	1	6	4	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	10	
3. Organic Heart Diseases.	129	16	4	3	34	35	15	21	1	81	48	59	24	7	3	21	1	1	1	2	2	1	1	3	5	8	11	13	9	14	6	16	7	9	20	10	6	129	
4. Angina Pectoris.	5	1	1	1	1	1	1	1	1	4	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5	
5. Diseases of the Arteries, Aneurism, etc.	6	1	1	1	1	1	1	1	1	3	3	1	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6	
6. Other Diseases of the Circulatory System.	18	5	2	2	6	1	2	2	1	10	8	11	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	18	
7. Diseases of the Sympathetic System.	18	5	2	2	6	1	2	2	1	10	8	11	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	18	
V.—DISEASES OF THE RESPIRATORY SYSTEM.																																							
1. Acute Bronchitis.	20	8	3	1	1	1	1	3	3	10	10	13	1	1	1	4	1	1	1	1	1	1	1	1	1	3	1	5	5	2	1	1	1	1	1	1	1	20	
2. Chronic Bronchitis.	4	1	1	1	1	1	1	1	2	3	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	
3. Broncho-pneumonia.	36	19	10	4	1	1	1	1	2	24	12	28	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6	12	8	4	1	1	1	1	1	36		
4. Pneumonia.	167	61	26	6	16	20	15	15	8	111	56	112	18	3	2	13	1	5	2	3	5	2	3	5	2	1	14	23	23	2									

III.—PUBLIC HEALTH INSPECTION.

Report by Dr. Barrow, Provincial Medical Inspector, for the year 1909

During the year 1909 there were outbreaks of infectious disease in all parts of the province, but with a few exceptions these outbreaks were easily controlled and were not of a very serious character.

With such a weapon as vaccination smallpox is more easily stamped out than the other infectious diseases. The vaccinated population of this province appears to be in larger proportion to the unvaccinated than was the case three years ago.

Of the more serious zymotic diseases scarlet fever gives most trouble to subdue. This is due to the fact that in many cases the disease is of a very mild type and frequently no physician is consulted and no quarantine established, and the patients move freely with other people during the long period in which they are infectious.

An interesting feature of this year's contagious diseases has been the introduction from the United States of the first case reported in Alberta of foot and mouth disease in a human subject.

The following are the localities visited by me during the year 1909, in connection with outbreaks of infectious and contagious disease. In some cases the disease existed in the outlying districts while the towns were free.

Smallpox.

Bowden.....	January 5 & 6.	Carstairs. . .	January 6 & 7.
Lacombe..	January 7 & 8.	Calgary..	January 12 to 14.
Canmore..	January 14.	Calgary.....	January 15.
Innisfail..	January 15 and 16.	Markerville..	January 16 and 17.
Raven .	January 17.	Mountain House	January 18.
Innisfail .	January 18 and 19.	Canmore . . .	January 31 to Feb 4
Winnifred	February 9.	Macleod..	February 10.
Frank	April 29 and 30.	Daysland..	May 11 and 12.
Bawlf .	May 12.	Sedgewick..	May 12 and 13.
Olds .	May 28.	Camrose	June 14 to 16.
Calgary	November 8 to 10.	Shepherd..	November 9.
Gleichen	November 26 & 27.	Calgary . . .	November 28 to 30.
Exshaw	December 11 to 13.	Shepherd..	December 14.
Frank	December 15 and 16.		

Scarlet Fever.

Macleod...	April 22 and 23.	Calgary...	April 24 to 27.
Okotoks .	May 19 and 20.	Macleod.....	May 20 and 21.
Lethbridge	May 22 to 25.	Wetaskiwin..	June 16.
Canmore . .	October 4 to 7.	Calgary....	December 1 and 2.
Edmonton	December 29 and 30.		

Diphtheria.

Coutts..	May 22.	Hardisty . .	September 23 & 24.
Talbot...	September 24 & 25.	Edmonton	November 18 & 19.

Typhoid Fever.

Pincher Creek. . .	May 5 and 6.	Bowden	June 3.
Taber	June 25.	Haneyville.....	September 25.
Exshaw.	October 5.	Kananaskis Falls	October 5.
Strathmore . . .	October 8.	Exshaw	November 13 & 14.
Didsbury	November 15.		

Tuberculosis.

Red Deer.....September 8 and 9.

Foot and Mouth Disease.

Lethbridge

February 5 to 8.

There has been much more typhoid fever in the province than there should have been, even after making every allowance for the rapid increase of the population. Intimately bound up with the existence of typhoid fever is the question of sanitation. The sanitary condition of many of the towns and villages leaves much to be desired. In connection with this matter I visited the following places:

Canmore	January 31 to February 4
Clover Bar Mines	February 18
Pincher Creek	April 23 and 24
Canmore	April 27 and 28
Coleman	May 5
Sedgewick	May 12 and 13
Camrose	May 13 and 14
Canmore	May 26
Strathmore	May 27
Bowden	June 3
Bowden	June 24
Morinville	September 20 and 21
Canmore	October 4 to 7
Exshaw	October 5
Strathmore	October 8
Coleman	November 11
Pincher Creek	November 11
Langdon	November 13
Stettler	November 16 and 17

The following slaughterhouses and pig-pen were inspected and steps taken to have them put in better condition:

May 5... Pat. Burns Co.'s slaughterhouse.. . . .	Blairmore.
May 5... 41 Meat Market slaughterhouse.. . . .	Blairmore.
May 6... Pat. Burns Co.'s slaughterhouse.. . . .	Pincher Creek.
May 6... 41 Meat Market slaughterhouse.. . . .	Pincher Creek.
October 8 Rich's pig-pen	Calgary.

HOSPITALS.

The condition of the hospitals throughout the province, in receipt of public aid, is on the whole good. Many of them have, during the past year, been enlarged and otherwise improved. On the other hand, very few have a sufficiently large staff of nurses. The following were visited officially by me, on the dates mentioned:

Galt Hospital	Lethbridge	February 6
Holy Cross Hospital	Calgary.	February 11
Salvation Army Home	Calgary	February 11
George McDougall Hospital	Pakan.	February 23
Misericordia Hospital	Edmonton	February 26
General Hospital	Edmonton	March 8
City Hospital	Edmonton	March 9
Isolation Hospital	Edmonton	March 10
General Hospital	Strathcona	March 12
The Sanitarium	Edmonton	March 15
Scandinavian Hospital	Wetaskiwin	April 19
Bawlf Hospital	Bawlf.	April 19
Providence Hospital	Daysland	April 20
General Hospital.	Red Deer	April 21
General Hospital	Calgary.	April 22
General Hospital	Macleod	April 23
General Hospital	Pincher Creek	April 23

United Mine Workers' Hospital, Canmore	April 28
Scandinavian Hospital . . . Wetaskiwin	June 4
General Hospital . . . Lacombe	June 21
General Hospital . . . Red Deer	September 8
City Hospital . . . Edmonton	September 17
Providence Hospital . . . Daysland	September 27
General Hospital . . . Bawlf	September 27
Scandinavian Hospital . . . Wetaskiwin	September 28
United Mine Workers' Hospital, Canmore	October 5
Holy Cross Hospital . . . Calgary	October 8
General Hospital . . . Calgary	October 8
Salvation Army Hospital. . . Calgary	October 9
General Hospital . . . Pincher Creek	November 11
General Hospital . . . Macleod	November 12

The following persons in destitute circumstances were visited and their necessities relieved by the supply of provisions or medical attendance, as required:

Anton Klimchuck	Canmore	January 14
Mrs. Kercher	Edmonton	January 29
John Merlak	Lethbridge	February 6
Mrs. Adams	Medicine Hat	February 8
Attwood	Cookville	February 22
Anton Klimchuck	Canmore	April 29
Walter Hall	Banff	April 28
Mrs. Thomson	Ponoka	June 4
Mrs. Payne	Ponoka	June 4
James Donovan	Content	June 9
W. Finlay	Lacombe	September 8
James Blink	Pine Lake	September 9
Mrs. Tingstead	Penhold	September 10
John Basruch	Exshaw	October 5

In the execution of these duties during the year of 1909, I travelled:

By rail	10,255 miles.
By road	900 miles.
Total	11,155 miles.

V. E. BARROW,
Provincial Medical Inspector.

IV.—HOSPITALS.

The following hospitals in the province received the Government grant of fifty cents per diem for every nonpaying patient and twenty-five cents per diem for every paying patient, entering and being treated in these institutions, together with a statement showing the expenditure, revenue and liabilities of such hospitals.

NAME OF HOSPITAL	LOCATION	NO. OF PATIENTS	NO. OF DYS TREATM'T
1. Memorial	Pincher Creek	101	1,532
2. Galt	Lethbridge	547	12,883
3. Misericordia	Edmonton	645	15,463
4. City	Edmonton	599	10,978
5. General	Edmonton	922	17,446
6. Isolation	Edmonton	156	2,507
7. Geo. McDougall	Pakan	107	1,110
8. General	Medicine Hat	806	12,207
9. United Mine Workers	Canmore	40	834
10. Scandinavian	Wetaskiwin	131	1,715
11. Holy Cross	Calgary	1,361	24,196
12. Salvation Army Home	Calgary	126	5,159
13. General	Macleod	223	3,861
14. Providence	Daysland	179	2,236
15. General	Calgary	1,192	17,423
16. Memorial	Red Deer	219	3,724
17. Public	Bawlf	203	3,173
18. General	Strathcona	157	3,214
19. R. M. Boswell	Vegreville	165	3,542

NO.	HOSPITAL	LOCATION	REVENUE						EXPENDITURE							LIABILITIES					
			Proceeds of loans and Mortgages	Cash On hand Jan. 1, 1909	CONTRIBUTIONS				Cost of Main- tenance	Expended on Build- ings	Expended on Furnish- ings	Interest on loans and Mortgages	Repayment of loans and Mortgages	Cash on Hand Dec. 31, 1909	TOTAL	Interest bearing Notes in the Bank	Mortgages on Real Estate	Rate of Interest	Total in- debtedness Dec. 31 1909	Increase over 1908	Decrease over 1908
					Local	Governm't Grant	Pay Patients	From other Sources													
1	Pincher Creek Memorial	Pincher Creek		\$ 155.60	\$ 325.00	\$ 571.00	\$1,303.80	\$ 931.31	\$3,286.71	\$2,999.32		\$ 38.75		\$ 248.64	\$3,286.71	\$ 993.00			\$ 993.00	\$ 494.90	
2	Galt	Lethbridge		3,847.02		4,426.00	14,294.05	11,353.84	33,920.91	21,793.75	\$ 889.80	\$1,465.45		9,771.91	33,920.91				45,620.00		\$4,280.00
3	Misericordia	Edmonton	\$ 10.08	1,427.69		7,826.50	7,412.04	5,290.60	21,966.91	12,889.38	461.20	769.32	2,326.50	\$ 3,500.00	2,020.51	21,966.91	1,120.00	\$44,500.00			
4	City	Edmonton	89,400.00	449.13	1,057.25	4,240.75	8,336.85	3,492.57	106,976.55	14,320.57	670.70	398.21	1,151.67	90,100.00	106,976.55	1,349.69	15,000.00	6½%	16,349.69		444.59
5	General	Edmonton	10,040.00	4,866.45	831.50	6,393.00	11,903.77	6,910.95	40,945.67	16,193.04	17,029.82	1,200.50	5,880.00		40,945.67	10,000.00	88,000.00	6 %	98,000.00		1,722.00
6	Isolation	Edmonton		428.75	2,707.76	568.25	1,584.70		5,289.46	4,897.88	120.03	271.55			5,289.46				300.00	167.65	
7	George McDougall	Pakan	300.00			467.50	601.85	806.50	2,175.85	1,249.20	53.05	295.11	132.35	446.14	2,175.85				300.00		
8	General	Medicine Hat	31,294.50	240.14	1,000.00	9,713.25	11,655.50	1,064.08	54,967.47	15,227.40	1,545.94	665.98	518.15	37,000.00	54,967.47	7,155.33		6 %	7,155.33		5,144.67
9	United Mine Workers	Canmore			675.00	1,095.25	149.75	33.00	1,953.00	1,485.16		207.02		260.82	1,953.00				1,340.00	400.00	
10	Scandinavian	Wetaskiwin	50.00	104.63		764.75	1,317.86	172.65	2,409.89	2,335.12		57.20	10.50		2,409.89	400.00	940.00		1,340.00		15,000.00
11	Holy Cross	Calgary		26.75	2,082.50	7,683.00	18,704.26	18,809.26	47,305.77	22,480.15	2,460.30	6,473.15	807.59	15,000.00	47,305.77	20,000.00		5½%	20,000.00		
12	Salvation Army Home	Calgary		320.37	343.50	1,372.75	289.00	353.75	2,679.37	1,442.91	900.00	134.36		202.10	2,679.37				24.63	24.63	
13	General	Macleod	357.80	139.39	900.00	1,142.75	4,212.60	1,021.20	7,773.74	6,061.42		285.60	5.75	594.37	7,773.74						
14	Providence	Daysland	5,500.00			708.25	905.75	2,131.40	9,245.40	1,566.13	6,650.91	559.55	418.80		9,245.40			6&7%	5,500.00		
15	Roland M. Boswell	Vegreville	334.14	749.28	50.00	1,373.50	1,092.10	3,822.18	7,421.20	4,823.56	2,012.83	264.00		320.81	7,421.20				2,000.00		500.00
16	Public	Bawlf	1,941.00	375.06	110.00	796.75	3,383.40	37.25	6,643.46	3,146.01	2,595.46	601.14		300.85	6,643.46	500.00	1,500.00		2,000.00		
17	General	Calgary		877.10	3,441.75	5,679.25	14,363.52	1,579.00	25,940.62	22,242.45				3,698.17	25,940.62	1,232.52	9,925.90		11,158.42	972.12	
18	Red Deer Memorial	Red Deer	72.54		500.00	1,102.25	6,004.55	40.00	7,719.34	6,555.60	135.88		949.72		7,719.34	2,210.78		7 %	2,210.78	260.97	
19	City	Strathcona	5,394.77				2,217.90		7,612.67	7,140.47	134.50	337.70			7,612.67	5,394.77			5,394.77		

V.—INCURABLES.

During the year six persons were found, upon investigation by the Department, to be destitute and suffering from incurable diseases, and admitted, on our order to the Home for Incurables at Medicine Hat, for their care, maintenance and treatment, these being proper subjects that the Government should provide for.

Number of patients	6
Number admitted during the year	3
Number discharged	1
Number of deaths	1
Number of days' treatment	1,482
Amount expended	\$1,482

VI.—CHARITY AND RELIEF.

It has been necessary that the Department issue assistance in the way of food, clothing, medical attendance, hospital accommodation or some other form of relief to forty-five deserving cases of destitution scattered throughout the province.

VII.—BURIALS.

Either through the order of a coroner, a member of the Royal North-West Mounted Police or this Department seventeen burials were authorized to be performed and the expenses incurred thereby paid out of moneys voted for that purpose.

L. E. W. IRVING,
Provincial Health Officer.

10.—REPORT OF THE SANITARY ENGINEER.

SIR,—I beg to submit report of the Sanitary Engineering Branch. There were submitted to the writer for examination on behalf of the Provincial Board of Health plans and specifications for the various works as follows, and consultations with reference to the following subjects were held in and advice given to the various towns as follows:

WATERWORKS.

New Works.—Calgary, Edmonton, Wetaskiwin, High River and Blairmore.

Extension of Existing Works. —Edmonton, Calgary, Strathcona, Lethbridge and Macleod.

Consultations.—Edmonton, Strathcona, Wetaskiwin, Calgary, High River, Macleod, Lethbridge, Medicine Hat and Bankhead.

SEWERAGE AND SEWAGE DISPOSAL WORKS.

New Works.—Wetaskiwin, High River and Red Deer.

Extension of Existing Works. —Edmonton, Calgary, Strathcona, Macleod and Lethbridge.

Consultations.—Edmonton, Strathcona, Wetaskiwin, Red Deer, Calgary, High River, Medicine Hat, Lethbridge and Macleod.

The following extracts from the reports of the various city engineers show the progress which is being made in the installation of waterworks, sewerage works, etc., in the Province:

Edmonton.

Previous to 1902 Edmonton water supply was, as it is now, derived from the Saskatchewan River, being forced by a small duplex steam pump placed on a floating platform from the river level to an elevated tank on the plateau above and distributed by tank wagons from house to house, the population of the town then being approximately 2,500. In 1901 preliminary steps were taken for the installation of a waterworks system and active work begun the following year. The first installation consisted of one compound duplex pump of a capacity of 750,000 imperial gallons per twenty-four hours, approximately four miles of distributing mains, fifty fire hydrants, sedimentation basin of 500,000 gallon capacity and an elevated stand tank of 60,000 gallon capacity and also two centrifugal pumps for pumping from the river into the sedimentation basin. It will thus be seen that the pumping of the water for the city is done in two stages: first, the raising of the water from the river to the ground level, a height of approximately 39 feet; second, the delivering of the water from the power house level under domestic or fire pressure as the case may be. The distributing system has been added to from year to year, until at the close of 1909 there were 50.29 miles of distributing mains. The pumping capacity has been added to by the installation of one steam pump of 1,500,000 imperial gallons capacity per twenty-four hours, one turbine pump, electrically driven, of a capacity of 3,000,000 gallons per twenty-four hours and one triple expansion high duty pump of 6,000,000 gallons capacity per twenty-four hours.

The waters of the river during the summer months become very turbid. To overcome this condition of the water a mechanical filter plant has been installed. This plant has a capacity of 4,000,000 gallons per twenty-four hours.

Edmonton's sewage system practically serves all the built up area of the city. During the year 1909 there was laid 7.77 miles of sewers including 69 manholes and 11 lampholes, making a total of 41.87 miles laid in the city up to the end of 1909. No disposal works are yet in operation other than a septic tank built in 1908, but this matter, as well as a comprehensive system of sewerage and drainage is now

under consideration with the view of formulating and adopting plans for future extensions and development

Calgary.

The City of Calgary has been engaged installing a gravity system of water supply for a prospective population of 100,000.

The intake works for the system is situated on the Elbow River about thirteen miles from the centre of the city, and consists of a channel from the river to a large sedimentation basin and natural filter from whence the water is conveyed in a continuous wooden stave water main of thirty inches diameter for about ten miles at a fall of approximately five feet to the mile, and thence at a sharper fall through a short length of twenty-six inch main of a similar construction to a service reservoir constructed at a point about three miles distant from the centre of the city, and at an elevation of about two hundred feet above the business portion of the city. The site chosen for the reservoir is a natural depression across the lower end of which an earthen dam is being constructed on the inner toe of which is being constructed a water tower wherein the inlet, outlet and service main valves may be placed. A sixteen inch connection will be made between the reservoir and the twenty inch and eighteen inch service mains which now convey the water to the distributing mains of the city, and in order to serve the portion of the city on the north side of the Bow River, a tunnel about forty feet in length has been constructed wherein for the present a sixteen inch cast iron service main is laid. The total cost of the scheme will amount to half a million dollars.

The city has added a second refuse destructor, also considerable additions have been made to the sewerage system, and about five miles of permanent paving have been laid in the main thoroughfares.

Medicine Hat.

Medicine Hat was incorporated in 1898, and in 1900 started the installation of a water supply system; the pumping station was located on the bank of the river and had a pump capacity of 1,200,000 gallons per twenty-four hours. Coal was first used as fuel, but in 1902 natural gas was substituted, the supply being obtained from a well adjacent to the pumping station. Although this report is not intended to deal with the natural gas supply, yet, it is such a generous gift of nature that it is most worthy of passing remark, and will be the means of making this city a manufacturing centre in the near future.

Analysis of the natural gas found in this locality is as follows: Methane, 99.49 per cent.; Hydrogen, 51 per cent.; Oxygen, a trace. One cubic foot of this gas is equivalent to 1,100 B.T.U.'s.

Since the first discovery of the gas fields, it has been found to extend one hundred miles east and west and at least fifty miles north and south. Two years ago a well was sunk thirty miles west of the city to a depth of two thousand feet and a flow of eight million cubic feet was obtained showing eight hundred pounds to the square inch. The wells under the control of the city are only from one thousand to fifteen hundred feet deep, and these show a pressure, with extremely dry gas, of six hundred and fifty pounds. This pressure is reduced and distributed through the city on a working basis, the domestic rate being fifteen cents per thousand cubic feet, with ten per cent. off if paid within thirty days, and the manufacturing rate five cents per thousand cubic feet.

In 1906 the city installed a mechanical filtration plant with alumina sulphate as the coagulant, the complete cost of the work being \$31,000. The plant has proved its efficiency and rendered a very potable domestic supply.

In the same year a contract was let for the construction of a five hundred thousand gallon stand pipe. This tank was thirty-five feet in diameter and seventy feet high, and is situated on one of the highest points in the city. The total cost of foundations and stand pipe was \$15,300.

In 1907 new machinery was put in at the pumping station including two four-stage centrifugal pumps of seven hundred and fifty thousand gallon capacity, two single cylinder, four cycle gas engines, of 100 B.H.P. each, the old machinery being retained as auxiliary plant. Owing to the floods in the river this machinery is located below high water level and is contained in a concrete pit of water tight construction.

At the present time the city has some twelve miles of water mains, about twelve hundred services and one hundred hydrants. An approximate cost of this work to date would be in the vicinity of \$200,000.

A system of sewerage has been designed based on the separate system principles and when completed will include fourteen miles of mains and will be capable of absorbing all the sewage from thirty thousand people. At the present time the sewage flows by gravity into the river during low stages and at periods of high water is pumped from the mains to the river by centrifugal, gas driven pumps. The pumping station has only recently been completed.

The city has not yet laid any permanent pavement, but they have constructed a great number of concrete sidewalks and in the coming year it is the intention of the council to extend these materially. It is also the intention of the council to do considerable street grading during 1910, appropriations to the amount of twenty thousand dollars having been voted for these purposes.

For the additional protection of pedestrian traffic a by-law will now be submitted for the construction of a pedestrian subway under the C.P.R. tracks.

The city is at present receiving reports on the installation of electric light and power which will shortly be submitted to the ratepayers. By-laws will also be submitted to them for the construction of surface drains for the disposal of street drainage.

The city will also build during the ensuing year a municipal store house.

Red Deer.

During 1909 water mains were laid along the following streets: Ross Avenue from Nanton to Parkdale; Parkdale Avenue from Ross Avenue to Mann; Blower Street from Nanton to Mackenzie. The system is now completed as far as furnishing water and fire protection to all settled parts of the town is concerned. A duplicate pump of 1,000,000 gallons capacity was ordered for delivery early in 1910.

About the end of the year the water rates were reduced to the following:

Domestic—4 rooms or under, \$6 per annum; each additional room 50 cents per annum; lawns and gardens \$1 per 25 feet frontage per annum.

Hotels—\$1 per annum for each room.

Building Purposes—Stone, per cord, 10 cents; brick per thousand, 10 cents; concrete, per cubic foot, 10 cents; plastering, per thousand yards, \$1.

Meter Rates—Per 100 cubic feet to 5,000 cubic feet, 25 cents, minimum rate \$3; per 100 cubic feet to 10,000 cubic feet, 20 cents, minimum rate \$12.50; per 100 cubic feet to 20,000 cubic feet, 16 cents, minimum rate \$20; per 100 cubic feet to 40,000 cubic feet, 13 cents, minimum rate \$32; per 100 cubic feet to 60,000 cubic feet, 11 cents, minimum rate \$52; per 100 cubic feet to 80,000 cubic feet, 10 cents, minimum rate \$66.

The lawn rate has been made especially low to encourage ratepayers to beautify their homes. This has been so taken advantage of that there are now many beautiful lawns and gardens in town.

Red Deer is probably the only town of its size in Canada that maintains a sprinkling cart for street watering purposes. Last fall a stand pipe was erected for filling the tank.

During 1909 sewers were laid on the following streets: Park Street from River; Avenue to East Avenue; Douglas Street from the Creamery to Nanton Avenue; McLeod Street from Gaetz Avenue to Nanton; Stewart Street from Gaetz Avenue to Nanton; Ross Avenue from Nanton Avenue to Parkdale; Parkdale Avenue from Ross Avenue to Mann Street.

Many connections are put into houses. The town's plan of putting in the connections and spreading the cost over a term of five years makes it an easy matter for any ratepayer to have the modern conveniences of water and sewers in his house.

A rigid plumbing by-law is enforced by strict inspection so that the ratepayers are guaranteed that their plumbing is properly installed.

Catch basins were put in on some of the streets. In 1910 cement sidewalks are to be built in the business portion of the town and additional catch basins will be put in to take care of the surface drainage.

Red Deer claims to be the cleanest kept town in Western Canada. All premises are regularly inspected and householders compelled to comply with strict sanitary rules. All cans are to be burnt out, garbage kept in tightly closed cans, premises kept clear of manure and rubbish and closets tightly closed to prevent the ingress and egress of flies. The streets are regularly cleared of rubbish and waste paper cans are being made to keep on corners.

Milk dealers are licensed and their cows and premises inspected regularly. Milk is tested at frequent intervals, the town having supplied the license inspector with a Babcock tester.

The results of the enforcement of the sanitary rules is seen in the few cases of contagious and infectious diseases reported during the past few years.

Lethbridge.

The city of Lethbridge has ten miles of sewer mains and nineteen miles of water mains.

The water supply is procured from the Belly River, which has its source in the Rocky Mountains. This supply is secured through a crib buried four feet below the sand and gravel bed of the Belly River, through which the water is fil-

tered; from this it is lead through concrete conduits to wells out of which it is pumped through one 12 inch and one 10 inch force main.

Our pumping equipment consists of one 2,000,000 gallons High Duty Worthington pump and two sets of motor driven centrifugal pumps of 100,000 gallons per day capacity each.

These force mains lead to two stand pipes each 80 feet high, with total capacity of 650,000 gallons. The total head pumped against, including friction head, is 404 feet.

We have in contemplation the construction of a gravity system, which would deliver a daily supply to the city of at least 1,000,000 gallons.

At present our sewer outlet discharges into the Belly River direct, but the matter of sewage disposal works is being taken up and it is expected that an active start on same will be made in 1910.

I might say in conclusion that our water supply is the very best, and with the best sanitary conditions the health of the community is excellent.

Strathcona.

During 1909 the following work was done:

Sewers, 3 inch tile—

	FEET
3rd Street East, southerly from 7th Avenue North	150
7th Avenue North, westerly from 5th Street East	292
2nd Avenue South, westerly from 3rd Street West	65

507

10 inch tile—

1st Avenue South, Main Street to 4th Street West	2,561
--	-------

12 inch tile—

Whyte Avenue, 2nd Street West to 264 feet west of 3rd Street West	884
Intersection of Walter and 2nd Streets West to 8th Street West	
and south to 9th Avenue North	6,005
Ross Road to River at Edmonton Dairy	320

7,209

Total lineal feet sewers, 10,277, or 1.95 miles.

8 inch tile, catch basin connections, 182 feet.

6 inch tile, house drains, 1,426 feet.

24 manholes constructed.

10 catchbasins constructed.

42 house drains laid.

Waterworks, 6 inch mains—

	FEET
5th Street East and Strathcona and Edmonton Road, from 7th Avenue North to Edmonton Dairy	4,697
8th Street East, Whyte Avenue to 3rd Avenue South	1,043
From 3rd Avenue North along 3rd Street West, 4th Avenue North, and 8th Street West to 9th Avenue North	5,249
11th Avenue North from Strathcona and Edmonton Road to Twin City Coal Mines	852
2nd Avenue South, easterly from 8th Street East	292
1st Street East, northerly from 1st Avenue North	275
3rd Street East, 5th to 7th Avenues North	678

13,086

8 inch mains—

Whyte Avenue, 2nd Street West to 132 feet west of 4th Street West	1,406
Whyte Avenue, from 5th to 8th Streets East	2,060

3,466

Total lineal feet water mains, 16,552, or 3.14 miles.

8 hydrants set in place.

58 gate valves set in place.

42 plumbing permits issued.

82 water services completed.

6 inch hydrant branches, 182 feet.

Work done prior to and including 1909:

Sewers—

	FEET
8 inch tile	17,458
10 inch tile	10,890
12 inch tile	13,353
15 inch tile	3,329
18 inch tile	1,445

20 inch tile.	2,841
24 inch tile.	1,467
24 inch outfall (wood)	950

51,733
Or 9.8 miles.

8 inch tile, catchbasin connections, 1,997 feet.
6 inch tile house drain connections, 9,369 feet.
104 manholes constructed.
27 catchbasins constructed.
205 house drains laid.

Waterworks—

	FEET
6 inch mains	46,277
8 inch mains	11,076
10 inch mains.	3,577
12 inch mains	2,903

63,833
Or 12.1 miles.

83 hydrants set in place.
208 gate valves set in place.
282 water services completed.
185 plumbing permits issued.
282 water consumers.
6 inch hydrant branches, 2,158 feet.

The most important waterworks extensions this year included a six inch main to the University grounds along 4th Avenue North and 8th Street West; also one along the Strathcona and Edmonton Road to the Edmonton dairy near the steel bridge, and an eight inch and six inch main from the corner of Whyte Avenue and 5th Street East to the Gainer & Co. abattoir with a six inch and two and a-half inch branch to the Donnan stables on the east side of Mill Creek.

The longest lines of sewer extensions were the ten inch sewer on 1st Avenue South from Main Street to 4th Street West, and the twelve inch sewer from the University grounds north along 8th Street West, the river road and through Walterdale to connect with the fifteen inch sewer built in 1907 at the intersection of Walter and 2nd Street West.

Allen's Lake has been drained through the sewer extension on Main Street South, constructed late last year.

The elevated tank and supply pipe have been encased and are now heated by steam. A new market building, office and scales have been erected and the old scales removed to the power house.

The new city office buildings will be completed early in 1910. Work on the new fire hall was suspended for a time but this building will be rushed to completion in 1910.

I have to report the satisfactory operation of the sewerage and waterworks systems during the year.

Wetaskiwin.

The city of Wetaskiwin has issued additional debentures to cover the cost of installing a modern waterworks and sewerage system under the supervision of Messrs. Galt & Smith, consulting engineers, of Toronto. This system when complete will embrace approximately five and a half miles of water mains and six miles of sewer mains.

The water, which has been pronounced by the Provincial Bacteriologist as being of the best, is obtained from three wells, average depth 240 feet, and capable of supplying some 500,000 gallons of pure water daily, which it is estimated will furnish an abundant supply for a population of 12,000 or 15,000. The water will be pumped by compressed air plant into a cement reservoir with a storage capacity of 215,000 gallons. In addition to this the system includes an elevated reserve steel tank raised 120 feet above the ground, and with a capacity of 120,000 gallons to be used in giving domestic service to the city and additional fire protection. This system is estimated to cost \$120,000.

The sewerage system now being installed will cost approximately \$75,000 and is designed to serve the entire business and main residential section of the city, comprising approximately six miles of mains. In connection with this system disposal works are being constructed. Owing to the flatness of the country it has been necessary to carry the outfall sewer line a distance of three and a half miles from the city limits. This, however, has been mostly constructed, and the disposal works will be completed during 1910. Total cost of this part of the system was \$53,000.

Macleod.

The town of Macleod has a thoroughly modern water, sewerage and electric lighting system.

The water system comprises six miles of mains with forty-five hydrants to insure ample fire protection, also a reservoir with a capacity of 100,000 imperial gallons. The daily consumption of water is approximately 200,000 gallons. The source of supply is the Old Man River, the water being filtered through gravel beds before being distributed to consumers. Very extensive additions will be made to the system in 1910 owing to the rapid growth of the town.

The sewerage system includes about five miles of sewer mains of size varying from 15 inch to 8 inch.

It is expected that sewage disposal works will be constructed in 1910. By the end of 1910 practically the whole of the residential district of the town will be provided with sewers.

The electric lighting consists of about seven miles of pole line for the distribution of electricity for light and power.

Extensive street improvements will be undertaken in 1910, in the construction of cement walks and the macadamizing of the roadways. Contracts have been let for some two miles of cement sidewalks ten feet wide to be put in as quickly as possible.

A by-law has been passed for \$45,000 to build a new municipal hospital to be equipped with all modern conveniences and improvements, and a city hall to cost about \$45,000. These will probably be built in 1910.

The power plant contains duplicate machinery for pumping water and generating electric power for the requirements of the town, and is equipped with modern and high class machinery.

All the public utilities are owned by the corporation.

The principal waterworks, sewerage and sewage disposal works in the United States were visited during the year and the various methods noted.

In order to thoroughly protect the domestic water supplies and prevent the deposit of decomposable organic matter on the banks of the streams of the province a new system of sewage purification and sterilization, specially devised to fulfil these requirements and peculiarly well adapted to meet our Canadian climatic and other conditions, was designed, blue prints and descriptions of which were supplied the various city engineers of the province. The Department of Public Works decided to adopt this method of purification and sterilization of sewage at the new asylum at Ponoka and the new gaol at Lethbridge and works are about to be installed at these places.

Consultations in connection with the various water, sewerage and sewage disposal works in the public buildings of the province were held with the Public Works Department during the year.

As a member of the Provincial Board of Health the writer attended its various meetings.

Respectfully submitted,

R. B. OWEN,

Provincial Sanitary Engineer.

11.—REPORT OF THE DIRECTOR OF THE PROVINCIAL LABORATORY.

SIR, —I have the honour to submit the following report on the work of the Provincial Laboratory for the year ending December 31st, 1909.

The work of the laboratory has to do with the diagnosis of communicable diseases; examination of water and milk; analysis of liquors; the examination for presence of blood, poisons, etc., for administration of justice; and some miscellaneous work.

I.—COMMUNICABLE DISEASES.

For the diagnosis of communicable diseases the number of specimens examined in 1909 and the results reported are shown in the following table:

SPECIMENS EXAMINED FOR DIAGNOSIS OF INFECTIOUS AND CONTAGIOUS DISEASES.

DISEASE	No. of specimens	RESULT		Specimens sent from No. of		NUMBER RECEIVED EACH MONTH			
		Pos	Neg.	Phy'ns	P.O.	Typhoid	Diph.	Sputum	
Typhoid.	194	82	112	63	24	Jan .	5	8	12
						Feb.	4	8	19
						Mar.	18	18	25
						Apr	16	28	23
						May.	7	33	19
						June	9	16	23
Diphtheria.	251	168	83	70	25	July.	12	17	18
						Aug.	15	18	16
						Sept..	20	12	14
						Oct..	30	21	24
						Nov.	30	37	18
Pulmonary Tuberculosis.	225	155	70	98	42	Dec	20	35	14
						Totals	194	251	225

In order that these examinations may be successfully made, also to avoid risks in handling the material, it is highly important that all specimens should be taken according to proper directions; sent in suitable containers and accompanied by certain data. The laboratory prepares and furnishes outfits and blank forms to meet the above requirements. Such outfits are furnished direct to the physicians on request, and also supplies of them are placed at the following repositories and replenished from time to time as necessary.

LIST OF SUPPLY STATIONS.

Post Office	Name
Airdrie	Dr. W. F. Edwards.
Banff	National Park Drug Co.
Bentley	Dr. W. G. Evans.
Calgary	{ 1.—Oliver Bros. (Druggists).
	{ 2.—Wendell McLean (Druggist).

Camrose...	Dr. Lamb.
Carstairs...	G. E. Kennedy (Druggist).
Castor...	Geo. Brown (Druggist).
Clareholm...	O. L. Reinecke (Druggist).
Daysland...	J. H. Burrows (Druggist).
Didsbury...	H. W. Chambers (Druggist).
Edberg...	Dr. McLeod.
Edmonton....	1.—Edmonton Drug Co. 2.—J. M. Sissons (Druggist). 3.—Norwood Pharmacy. 4.—Health Department. 5.—Isolation Hospital.
Fort Saskatchewan...	Dr. P. Aylen.
Gleichen...	Dr. Wm. Rose.
Hardisty...	Eddington Drug Co.
High River...	Dr. G. D. Stanley.
Innisfail...	Wm. Geary (Druggist).
Irvine...	Dr. J. H. Ferguson.
Lacombe...	N. I. McDermid (Druggist).
Lamont...	Dr. A. E. Archer.
Lethbridge...	1.—Dr. DeVeber. 2.—Dr. Campbell.
Lloydminster...	Red Cross Pharmacy.
Lundbreck...	Dr. A. C. C. Johnson.
Macleod...	R. B. Barnes (Druggist).
Magrath...	Magrath Pharmacy.
Medicine Hat...	1.—Dr. O. Boyd. 2.—General Hospital.
Nanton...	Dr. J. A. Creighton.
Okotoks...	G. W. Edmonds (Druggist).
Olds...	1. Dr. J. Little. 2.—Dr. J. C. Stevens.
Pakan...	Dr. C. H. Lawford.
Pincher Creek...	E. J. Mitchell (Druggist).
Ponoka...	Dr. W. A. Campbell.
Raymond...	Dr. J. H. Rivers.
Red Deer...	Dr. J. Collison.
St. Albert...	Laval Drug Co.
Stettler...	The Dunlop Drug Co.
Stony Plain...	Dr. R. M. Oatway.
Strathcona...	Frank Cowles (Druggist).
Taber...	Dr. N. Aikens.
Vegreville...	Drs. Field and Monkman.
Vermilion...	F. C. Long (Druggist).
Viking...	Dr. G. E. Story.
Wabamun...	Dr. C. E. Carthew.
Wetaskiwin...	1.—Dr. R. D. Robertson. 2.—Humphrey Higgs (Druggist).

The co-operation of the public and especially of the medical profession is essential to secure the best results from the work of the laboratory. This co-operation depends upon an intelligent appreciation of the functions and purposes of the laboratory and, to secure this, educational work must be continually carried on. This educational effort is most practicable through the annual reports of the Department, the reading of papers at medical and other conventions, and in the routine correspondence and other work of the laboratory. At the annual meeting of the Provincial Medical Association held in Calgary during August, the writer presented a paper on the "Functions of a Public Health Laboratory." This appears in the published Proceedings of the Medical Association and so is available to the medical practitioners. For the information of the general public extracts from the paper are included in this report.

Preventive medicine occupies an increasingly important and larger place in modern medicine. In this growth and development laboratory investigation has played a large part. The present is seeing an extension of its methods and their application. The future will see this continue until not only diagnosis but also

the application and results of treatment will be subject, and subjected to, laboratory control.

Laboratories are of various kinds. That properly termed a public health laboratory is of a special kind and in order that it may serve its maximum of usefulness there must be a clear understanding of its nature, its relationship to public and private medical work, and of the requirements and limitations of its undertakings. This understanding must be shared alike by those who originate and maintain it, those who conduct it and those whom it serves. Otherwise there must result cross-purposes, misunderstandings and dissatisfaction.

Broadly speaking the functions of a public health laboratory are concerned with health matters of public interest, i.e., with public utilities related to health and with diseases that menace the public. By "public" is here meant more particularly the well or healthy people. Note that it is *public health* not *public sick peoples'* laboratory. Specifically these matters of public interest are, first, infectious diseases; second, public supplies of water, milk and food; third, sewage disposal; fourth, the production of vaccine, antitoxic sera and antirabic treatment; fifth, education of the public regarding public health and disease; sixth, research in the preceding fields.

In regard to *infectious diseases*, the function of the laboratory is

(1) To discover foci (or "seed centres") of infection of the naturally communicable diseases of man, and

(2) To discover if possible the channels and agents by which the infection is spreading in any given outbreak. The endeavour to discover foci is made usually by the laboratory examination of material from suspected cases. This endeavour is necessarily limited to those diseases furnishing material in which infection can be recognized and for which there are practicable laboratory methods. The chief of these are *pulmonary tuberculosis*, *diphtheria*, and *typhoid fever* in man, also *tuberculosis*, *glanders*, *rabies* and *anthrax* in domestic animals. To these might be added *malaria*, *syphilis*, *gonorrhea*, (including *gonorrheal ophthalmia*) *smallpox* and other contagious diseases in which laboratory findings may aid in diagnosing.

Prevention is infinitely better than cure. The ultimate purpose of the examination made by the laboratory is the protection of the well people who might be exposed to disease, and it is chiefly to this end that it makes possible (by exact diagnosis) the application of appropriate *curative* treatment of the sick person. Thus, if everybody had *pulmonary tuberculosis*, we would not make *public health* examinations of sputa for the presence of tubercle bacilli, i.e., as sputum examinations could then have reference only to the individual case as such, and not as related to the health of other people, it would be a private, not a public affair. To illustrate and make this more evident and also to bring out some other points I shall discuss in some detail the purpose of the work of the laboratory on some of the diseases enumerated above and more especially the significance of positive and negative reports. It is important that the exact significance of the laboratory report should be always kept clearly in mind.

In contradistinction to the public health laboratory work stands clinical laboratory examination for private cases. A "private" case is one of a disease or diseased condition which is not infectious or contagious, hence not menacing the health of even other persons of the same household. Such diseases (e.g., Bright's disease, dyspepsia, neoplasm), are not a danger to the public health and so are not included in the routine of work of public laboratories. Analyses of urine and stomach-contents, blood and histological examinations are rightly subject only for commercial or private enterprise.

Tuberculosis.

This is one of the most destructive diseases to which the human race is exposed. Its ravages cause more deaths, more sickness, and more misery among our people than any other single cause. A great deal can be done in the home for the prevention and cure of tuberculosis. But a great deal more is possible in sanatoria and hospitals and many cases which are hopeless in the homes of the poor may be cured by treatment in proper institutions, thus saving the lives not only of the sick but also of those whom they infect in their homes and in public places. Unfortunately no organized effort has yet been made in Alberta to combat the destruction which the white plague, as tuberculosis is justly called, is causing among our people. In all the other provinces of Canada steps have been taken (or carried out) to deal with tuberculosis in a state sanatorium or by other effective means. The reputation of Alberta's



A PRIZE WINNING TEAM OF CLYDESDALE GELDINGS BRED IN ALBERTA.

climate for healthfulness brings to this province many persons with tuberculosis already well advanced. The rigorous climate in winter impels very many people to exclude the fresh air from their houses at the same time that they shut out the cold. Poor ventilation is notoriously one of the greatest predisposing causes of pulmonary tuberculosis (consumption). Our Indian population are also very subject to this disease.

In order that a case may receive the necessary care to give the patient every chance to recover and to avoid infecting others certain diagnosis of the disease is essential. The presence of tubercle bacilli in the material coughed up from the lungs (so-called sputum) is positive proof of tuberculosis. Examination of sputum for tubercle bacilli is an important part of the routine work of the laboratory. Outfits for the sputa, examination and reports are furnished entirely free. The large proportion of positive findings shown in Table I above indicates that the sputum examination is not resorted to as often and as early as it should be.

Sputum from a case of suspected pulmonary tuberculosis is examined to find an answer to the question "Is this sputum dangerous to the public health?" and a positive report on the presence of T.B.* in sputum means: "This sputum is infectious and should be dealt with accordingly." The neglect to apply proper preventative measures in the case of a patient whose sputum is reported positive for T.B. is therefore the failure to realize the essential purpose of the laboratory. To state it another way: Sputum is examined for T.B. not merely to answer the question, "Has the person whose sputum this is, tuberculosis?" and a negative report on sputum merely means "This sputum is not found to contain T. B." It emphatically does not mean and never should be taken to mean that the person has not tuberculosis, even tuberculosis of the lungs.

Sputum examination may have quite another application, which by contrast serves to emphasize its real bearing in public health work. Thus it may be made with reference to a life-insurance risk, which is not a matter of public health.

In order that a positive finding may be had for a given sample of sputum the following conditions must be fulfilled:

- (1) The person must have tuberculosis of the lungs;
- (2) The disease must have progressed to the extent of breaking down the tissue;
- (3) There must be sloughing-off of this tuberculosis material into the air-passages;
- (4) Such material must be present in the given sample of sputum;
- (5) The fragment selected from the sample must contain some of this material;
- (6) It must be successfully stained;
- (7) Brought into the field of the microscope; and
- (8) Recognized by the observer.

Failure of any one of these requirements results in a negative report which, therefore, should always be interpreted by the Scotch verdict "not proven" rather than "not guilty." Of the above eight conditions to a positive report I think lack of the third or of the fourth is most commonly the origin of a negative finding, *i.e.*, either sloughing-off of tuberculous tissue is not occurring or the sample of sputum submitted is not properly derived. It is, therefore, not surprising if occasionally a patient succumbs to pulmonary tuberculosis some time after a negative report has been made on his sputum. This, I think, should hardly be regarded as reflecting on the thoroughness of the laboratory examination.

* T. B. is an abbreviation of "tubercle bacilli," the germs or cause of tuberculosis.

So far as the sputum examination may be regarded as a means of early diagnosis and a negative report consequently result in neglect of the various means to an actual early diagnosis and of appropriate curative treatment, the public health sputum examination would well be abandoned altogether for the good of the individual case. Its purpose is not to indicate when extraordinary therapeutic measures should be instituted, but rather when extraordinary precautions should be taken to prevent spread of T.B. by the patient and especially that he should adopt proper habits of coughing, sputum disposal, eating, drinking, etc. Of course all sputum should always be regarded as dangerous, and promiscuous public spitting therefore rigidly prohibited and punished by law. We must recognize, however, that to spit is physiological and the old maxim "Shut your mouth and save your life" might well have coupled with it "Spit and save your life." Sputum is a greater menace to health if swallowed than if expectorated. The assertion "No spit, no consumption" would be better advice if put "spitting properly prevents consumption."

A very great deal can be done towards reducing the number of cases and deaths from consumption by education of the public as to the causes, prevention and cure of tuberculosis. The following rules and information contain most useful advice:

RULES FOR THE SICK.

"It is in the power of man to cause all germ diseases to disappear from the world."—*Pasteur*.

Don't give consumption to others; Don't let others give it to you.

Consumption is the most common form of tuberculosis and is a germ disease. It is preventable. It is curable. Avoid patent medicines. Good foods, rest, abundant fresh air night and day, and light, are the best cures.

Consumption can be prevented. It is caused by taking into the body, particularly into the lungs, the very small living germs that are coughed up and spit out by consumptives. If the consumptive spits about carelessly on floors or sidewalks, the spit dries and is scattered in dust.

To breathe this dust or to eat food soiled with it causes consumption.

If the consumptive destroys everything he coughs up he will not spread the disease to others.

Always cover your mouth when you cough. Coughing, and even speaking, projects particles into the air and these may contain germs which are inhaled before they settle down.

Do not spit on the pavement, on the street, or on the floor.

Do not swallow your spit, because it carries the disease to other organs of the body. Spit into a cup when it is possible to do so. If you have no cup, spit into pieces of paper and burn them as soon as possible.

Always use a tissue-paper napkin to wipe your mouth with after you spit.

Be careful not to soil your hands with your spit.

Always wash your hands well and rinse out your mouth before eating.

Do not let any spit get on your clothing, your bed clothes, or furniture.

Do not cough if you can avoid it, and always cover your mouth with a paper napkin when you are compelled to cough.

Do not cough, sneeze, laugh, or talk loudly close to another's face because small drops of spit carry the germs.

Get all the fresh air you can, day and night. It is better to be out of doors than in a room, even if all the windows are open. There is no danger in night air. It is more pure than day air, especially in cities.

Do not take any exercise except with your doctor's advice.

Take no medicine except what your physician orders. Especially avoid patent medicines; many of them contain drugs which are injurious to you. They are all exorbitant in price.

Avoid doctors who advertise.

Do not drink whiskey, beer or liquor of any kind. Alcohol in any form is apt to derange your stomach, take away your appetite, and prevent the proper digestion of food.

The cure of consumption depends largely on good food and good digestion.

Be careful that the milk you drink comes from cattle free from tuberculosis.
Consumption can be cured in most cases, if proper treatment be taken early.
It can always be prevented.

Never neglect a cough or a continued cold. Consult your physician early.
Keep up your courage and be cheerful.

The careful and cleanly consumptive is not dangerous to those with whom he lives or works.

Diphtheria.

Early diagnosis of diphtheria and the use of antitoxin reduces the death rate from this formerly so terrifying disease almost to nil. In the diagnosis bacteriological examination is very helpful and in many cases is the only means of distinguishing between true diphtheria requiring antitoxin, and ordinary sore throat or tonsillitis which require different treatment.

A negative report has a greater value in diphtheria than in either pulmonary tuberculosis or typhoid; in other words, it is easier to exclude diphtheria by bacteriological examination than either of the other two diseases. The diphtheria bacilli are commonly so abundant in the patient's throat and so readily obtained and brought under examination that one is much less likely to miss them than T.B. in sputum, while the Widal reaction is not constantly present throughout typhoid.

In diphtheria a positive report means: "The liberty of the person from whom this specimen comes is a menace to the public health, therefore, institute (or maintain) quarantine and other protective measures." Commonly it is taken as signifying that the person has clinical diphtheria and should receive antitoxin. The person may be clinically quite well and it should be distinctly understood that the clinical diagnosis and the necessary curative measures are duties of the attending physician. Laboratory findings are only a part of the evidence on which to base a verdict—sometimes such findings are final and conclusive as to the nature of the disease, but never as to the nature of the patient. Therefore the report is always on the presence or absence of the bacilli (or Widal reaction) and not on the presence or absence of the suspected disease.

Just here I may digress for a moment to make clear an essential difference between the general duties of the private practitioner (family physician) and of the public hygienist or medical health officer. The prime duty of the attending physician is to his patient—*"Curare tute, cito et jucunde"* (to cure safely, quickly and pleasantly). He must "Treat the patient and not the disease!" The prime duty of the medical health officer is to the public. His essential duty is "Treat the disease and not the patient!" He must see that the patient is cured safely to the public—and this may not always be pleasantly to the patient—perhaps not always even most safely to the patient. Now, the patient and his family are a very real and definite quantity—a quantity often of impatience and active resentment towards the measures necessary to the public health. The public is an indefinite quantity, often indifferent and ungrateful for the health and life-saving work of the medical health officer. Only sickness makes us prize health. Here we probably have a large part, if not the whole, of the explanation of the frequent unpopularity of the efficient and conscientious medical health officer. In protecting a careless and ungrateful (because unrecognized) public, he is likely to incur the displeasure of the convalescent's family.

Typhoid Fever.

Typhoid fever varies in its symptoms so much that many cases are very difficult to diagnose. Not all who are exposed to the infection develop the disease. Some persons getting the germs into their system may not get sick at all, yet be capable of passing the infection on to others. Many persons recovering from typhoid continue to harbor the germs long after they are quite well. These two classes of individuals are termed "bacillus carriers" and they are the cause of many mysterious outbreaks. For such bacillus carriers, and also for obscure cases, the Widal test is of first-class value. It is readily carried out by a competent observer and should be much more generally utilized.

Success in the discovery of disease foci and channels is often possible only by thorough and skilful epidemiological investigations of outbreaks of disease, especially typhoid. These investigations may, in their course, involve examination of public water-supplies, milk and other foods. Epidemiological investigation should be carried on by a laboratory-trained man. An epidemic of typhoid is essentially a bacteriological phenomenon. Most of its story usually can be deciphered by the etiologist from the clinical hieroglyphics alone. Preliminary to the application of laboratory tests there should always be a thorough study of the entire outbreak, comparable to the clinical study of a case. Thus the investigation of an epidemic should comprise a full anamnesis (past history) of the community's health, an accurate study of the present clinical picture of the community, and only thirdly and according to the indications of the preceding should laboratory tests be instituted. This order of procedure would not only obviate many useless water analyses and other analyses, but would give the desired results, would be much more likely to discover the source of the evil, and so allow intelligent action to stop or remove it. To endeavour to detect the source of a typhoid infection by resorting immediately to a water analysis is analogous to an effort to make a diagnosis of any illness by a delicate and exhaustive analysis of the urine as the first step while entirely ignoring the clinical study of the patient. Both analyses have their value, but their place is certainly not initial. Perhaps a better analogy would be, in a case of poisoning to submit the family porridge oatmeal supply to analysis for arsenic without previous enquiry into the history of the case. This would have the advantage over the water analysis, that, if present, the arsenic does not disappear, whereas the typhoid poison rather quickly diminishes, and disappears usually before an analysis is even thought of. I speak now more particularly with regard to typhoid fever, in the investigation of which an immediate resort to water-analysis is but a stab in the dark, a random shot. The source of infection of sporadic or single cases is usually too obscure, and such cases too numerous and scattered in this province to be thoroughly investigated in every instance, but the first appearance of any sign of an outbreak should at once call for expert study of the situation. I would regard as a sign of an outbreak the occurrence of an associated or related case. I do not mean, however, that the investigation of single cases should be neglected. I only mean that under present conditions it is not possible always to undertake this, but it should be aimed at for the future.

The history of each case of typhoid in an outbreak is comparable to a single symptom in an individual case-history. The study of

many associated cases is necessary to a proper diagnosis, just as the study of the whole symptom-complex is necessary to the exact diagnosis of an individual case of any disease. Seldom is any one symptom pathognomonic, so also a single case-history of typhoid is rarely a key to the source and mode of an epidemic. Correlated study of case-histories is here the great essential. *Bacillus*-carriers and mild unrecognized cases must be had in mind. Their discovery and the exclusion of wrongly-diagnosed cases are greatly facilitated by the Widal test applied to sick, convalescent and recovered cases, and also to possible "carriers."

It is possible by keeping close tab on certain data regarding every typhoid case in a community to detect an outbreak very early in its course, and even to form a good idea as to the real source of it. Thus, milk, water, fly, and contact or finger epidemics, have each their characteristic features, which are rather easily discovered. Such investative work is as fascinating as criminal detective work—and far more valuable to the public weal.

The epidemiologist must be an expert, a specialist, if you please, in "community diseases." The local medical health officer has neither time nor, usually, the necessary special training for successfully doing such work, and, moreover, in such investigations he is liable to be handicapped by local conditions, such as the unwillingness of his fellow practitioners to give the necessary full insight into their cases. I say this with full appreciation of the high ability and purpose of medical health officers, but we all have our limitations, and it is as bad to exceed them as not to work up to them.

Certain data regarding each specimen are requisite to realize the full usefulness of the public health work of the laboratory. To obtain this data necessitates a thorough clinical study of the case. The information forms valuable statistical material (in so far as it is accurate, and it serves to bring the laboratory work into correlation with that of the administrative side. The laboratory man is a technician. The health officer is essentially an administrator. These two sides of public health service should be clearly distinguished and appropriately co-ordinated if the maximum of efficiency is to be obtained.

This matter of data regarding material may be made clear by a brief reference to venereal diseases. In the bacteriological diagnosis of gonorrhoea the public laboratory should, I believe, make free examinations, but only when the proper data are furnished, including name (or initials) and address of patient, whether married or single, relation to other cases, date of onset, symptoms, etc. (It is but a matter of time till informed intelligent public opinion will demand notification of gonorrhoea and syphilis, as well as pulmonary tuberculosis.) If the examination bears only on the treatment of the case it is a private matter and the patient should accordingly pay for it. The necessity of proper data is not always rightly understood. If it were there would seldom or never be any hesitation or unwillingness to furnish the information usually asked for.

II.—WATER INVESTIGATIONS.

Water investigations are a most important function of a public health organization, and are likewise the subject of perhaps the grossest misconceptions not only as to the why and the how of the undertaking and the application of its findings, but even as to what supplies are proper objects of attention. Briefly these latter are: (1) Supplies proposed for public use, or extension of public use, and

(2) Supplies in use and justly under suspicion of causing or transferring disease. A water is justly brought under suspicion by what I have compared to the anamnesis and clinical picture of a patient. These often either give the water a clean bill-of-health or unmistakably condemn it without recourse to laboratory tests which are often uncertain in their significance and should follow, not precede, the general study mentioned.

An opinion as to the sanitary status of a water-supply can be rightly formed only when we have—

(1) The history of the use of the water, especially its effect on health;

(2) The data from intelligent, exact and thorough sanitary and topographical inspection of the environment of the water;

(3) "Comparates" (*vide infra*) for the locality and season;

(4) Proper samples for analysis.

Of these four requirements the first two are generally more necessary than the last two, and are more easily and quickly obtainable.

1. The effect of the use of a given water on health is a biological test and is one of the most crucial tests to which the water can be subjected. It is moreover a test which has already been made usually before any other is asked for. In one instance I was asked to analyze the water of the well of a family in which there were six cases of typhoid. On investigating the outbreak, I found that for months previous to the onset of these cases the well-water was also used by a lot of school children, none of whom developed typhoid. This exonerated the well immediately and much more certainly than all the chemical and bacteriological tests could have. Indeed these latter would have condemned the well for it was close by the barnyard and had openings in the cover (for the rods of the double force-pump) through which the manure brought there by the farmers' boots was being washed every time water was pumped. Seeing is believing and that well certainly was both chemically contaminated and also contained plenty of colon bacilli—probably none of which were of human origin. The outbreak was really due to an unrecognized "walking-case" of typhoid and the well water played no part in it.

2 and 3. If you were asked what is the matter with a person who weighs 120 lbs., you would probably, before answering, wish to know the person's height, age, sex, weight in the past, occupation, etc. Just so when we attempt to determine the sanitary quality of water, it is necessary to have other data besides the analytical figures. We must also know what is usual for the given class of water in the locality and season of the year, where and when the sample is taken. This is determinable only by numerous examinations, giving what are known as comparates. In other words, the significance of a water-analysis is a matter not of absolute but of relative values.

4. A proper sample is one that is sufficient in amount, so taken as to truly represent its source, and appropriately cared for until brought under examination. Outfits and directions for sampling are furnished by the laboratory.

Given the conditions and data I have outlined, a due consideration of all this information will enable an experienced man to avoid guessing at the quality of a given water supply. As a rule the more experienced he is the less readily does he form a decided opinion.

Laboratory workers are sometimes criticized in a friendly way with overestimating the value and significance of laboratory work and findings. Let me assure you they realize perhaps more keenly than most non-laboratory men how narrow the limitations of laboratory determinations are, and frequently have to disappoint enthusiasts who ask things that the laboratory does not attempt, either because such are not in the legitimate routine of its work or because methods have not yet been devised for the thing requested. On the other hand, however, most investigations by a laboratory are of value and worth the time, trouble and expense involved only when they are carried out under certain conditions, certain requisites, which must be fulfilled as being fundamental to the determinations made. What these requirements are is best understood by the laboratory worker and must, therefore, be prescribed by him.

To isolate typhoid germs from water is a bacteriological stunt which has seldom been successfully accomplished and is not attempted in routine water work. The *Colon bacillus* is taken as an index to excremental contamination but it is not peculiar to the human intestine and nearly all waters contain it in certain numbers. What is significant is the comparison of the actual number found in the sample with the normal number (in uncontaminated water) for the source of the sample.

Uncontaminated waters of all kinds are each characterized by chemical and bacterial features which are more or less peculiar for each class of water and the locality of its source. These characters have to be worked out for each part of the country. Analysis of Alberta waters can be properly interpreted only in the light of Alberta comparates which have to be fully determined by preliminary investigation. This requires planning ahead, intelligent, systematized, well projected work extending over a number of years. Haphazard, miscellaneous samples are almost utterly useless for the purpose. Water bacteria are really very delicate plants, that are not easy to keep long unaffected once the sample is bottled. Lack of time and space prevents my going into this in sufficient detail here. The annual reports of the provincial laboratory contain further description.

In 1909 there were 121 analyses of water made in the laboratory. Chemical analysis of water is useful not so much to detect contamination as to determine the character of the water as regards hardness (or "soap-consuming power"), amount and character of dissolved mineral substances and of suspended matter, fitness for culinary and boiler uses, etc. Bacterial analysis is a very valuable aid to the determination of the presence and amount of contamination. To obtain reliable results, however, it is nearly always necessary to begin the bacterial examination "in the field," *i.e.*, in the immediate vicinity of the water supply itself. The bacteria in a sample change quickly once the water is removed from the source and bottled. It is important to have the work of the laboratory extended as soon as possible to provide adequately for such field work. The vital and insistent matter of sewage disposal also makes this most desirable.

III.—MILK.

Food analyses for public health purposes are made to determine fitness for human use of selected (because suspicious) food supplies without endangering health, and are desirable for foods that are readily subject to contamination or to sophistication; or as occasion indicates, for disease, unfitness of raw material, use of improper

preservatives, etc., as is especially exemplified by milk. In the examination of milk samples it is possible to determine only certain things, however, viz., the presence and amount of "dirt"; the number and kinds of bacteria, which are significant as regards care of the milk; local diseases of the udder and other diseases of the cow, such as tuberculosis; leucocytes and pus-cells; sophistication, such as skimming, watering, and the addition of preservatives; also the amount of butter fat. This latter is the one thing that is most commonly determined and given attention to. Its bearing is almost purely commercial. As to the "dirt" content of milk, we seldom, if ever hear a word. If it were generally known, however, that the major part of dirt in unclean milk is manure, there would quickly be a more intelligent public demand and sanction for the measures necessary to give us right milk supplies.

I wish to emphasize that intelligent, thorough and frequent inspection is the only safeguard to a good public milk supply. The terror of the mysterious bacteriological analysis may be a good thing to hold over the heads of ignorant, unscrupulous and careless producers and dealers, but it should never be expected to take the place of regular inspection.

Eight analyses of milk were made for Bassano, Bowden, Trochu, Edmonton, Medicine Hat and Red Deer.

The best way of ensuring a good and safe public milk supply is by efficient dairy inspection. Just what is meant by this is best shown by including here a copy of a score card for dairy inspection which shows the various matters relating to milk production, and their relative values in a comprehensive consideration of the milk supply. Under no circumstances can chemical and bacterial examinations of milk take the place of dairy inspection in securing sanitary milk.

The purposes of dairy inspection are:

(1) The systematic determination of the exact conditions in the dairies and recording the same in convenient form for comparison and reference;

(2) The education of the producer to use better methods;

(3) The protection of the public from impure milk.

The sanitary quality of milk depends on the conditions governing its production and its handling until delivered. The score card gives an exact means of measuring these conditions and therefore enables fair comparisons to be made as to the product of different dairies and dealers, and the same dairy or dealer at different times. It also is educational, showing the dairyman what should be demanded and reasonably expected in his output.

There are various forms of score cards. The following is from the College of Agriculture in Cornell University, Ithaca, N.Y., and applies to so-called "sanitary" milk. It is well adapted to ordinary dairy inspection work. It includes reference to all the necessary equipment and methods for producing and handling clean and wholesome milk. The numerical value assigned to each feature is for perfection. In scoring a dairy the number is cut down to express the real condition found.

SCORE CARD FOR PRODUCTION OF SANITARY MILK.

Date. Dairy of.

		Per- fect	Score
1. Health of the herd and its protection.	Health and comfort of the cows and their isolation when sick or at calving time.	45	
	Location, lighting and ventilation of the stable.	35	
	Food and water.	20	
	Total	100	
2. Cleanliness of the cows and their surroundings.	Cows	30	
	Stable	20	
	Barnyard and pasture	20	
	Stable air (freedom from dust and odors).	30	
	Total.	100	
3. Construction and care of the utensils.	Construction of utensils and their cleaning and sterilizing.	40	
	Water supply for cleaning, and location and protection of its source	25	
	Care of utensils after cleaning	20	
	Use of small-top milking pail	15	
	Total	100	
4. Health of employees and manner of milking.	Health of employees	45	
	Clean overall milking suits and milking with clean, dry hands	30	
	Quiet milking, attention to cleanliness of the udder and discarding of fore milk	25	
	Total.	100	
5. Handling the milk.	Prompt and efficient cooling	35	
	Handling milk in a sanitary room and holding it at a low temperature	35	
	Protection during transportation to market	30	
	Total	100	
	Total of all scores	500	
If the total of all scores is—		And each division is—	The sanitary conditions are—
480 or above		90 or above.	EXCELLENT.
450 or above		80 or above.	GOOD.
400 or above		60 or above.	MEDIUM.
Below 400		Or any division is below 60	POOR.
The sanitary conditions are.		Scored by.	

Good judgment must be used with this score card, as in all work of importance; but, to assist the inspector, a statement accompanies the score card, describing briefly what is perfection and suggesting how much should be cut for various deficiencies. The value of the score card lies in the fact that the producer is permitted to see in a way that he can easily understand just which features of his plant are deficient and, roughly how great is the deficiency. And the inspector is aided by having in his hand a short, clean-cut statement to assist his own good judgment.

A Brief Description of What Constitutes Perfect under Each Heading.

1. *Health*.—No evidence of chronic or infectious disease or of acute disease in any member of the herd on the dairy premises. Freedom from tuberculosis proven by the tuberculin test made within one year.

Comfort.—Protection from weather extremes. Stall comfortable, at least three feet wide, for a small cow, or three and one-half feet for a large cow; length of stall sufficient for cow to rest easily. Sufficient bedding. Frequent outdoor exercise.

Isolation.—Removal of cows to comfortable quarters outside the dairy stable when sick or at calving time.

Location of Stables.—Free from probability of contaminating dust and odors (apart from horses, pigs, privy, poultry-house, etc.).

Lighting.—As light as a well-lighted living room, and with not less than four square feet for light from the east, south, or west for each cow.

Ventilation.—An adequate ventilating system of the King or other approved pattern, and, except when the stable is being cleaned, no marked stable odor.

Food.—Clean, wholesome feeding stuffs, fed in proper quantities.

Water.—Clean, fresh water, free from possibility of contamination by disease germs.

2. *Cows*.—Cleaned by thorough brushing and, where necessary, by washing; no dust or dirt on the hair (stains not considered). The udder thoroughly cleaned by brush at least thirty minutes before milking, and by washing just before milking, leaving the udder damp to cause dust to adhere.

Stable.—Free from dust and accumulation of dirt, except fresh manure in the gutter.

Barnyard and Pasture.—No injurious plants, no mud-hole nor pile of manure, nor any decaying substance where cows have access.

Stable Air.—Free from floating dust and odors. (Tight partition ceiling or floor between the space occupied by cows and that used for storage of feed or other purpose.)

3. *Construction of Utensils*.—Non-absorbent material and every part accessible to the brush, and, except inside the tubes, visible when being cleaned.

Cleaning.—Thorough cleaning with brush and hot water, and rinsing. No laundry soap. Thorough sterilization.

Water.—From a source known to be pure, protected from contamination from seepage or surface drainage.

Care of utensils.—Such as to avoid contamination by dust as well as coarser dirt.

Small-top Pail.—Top with opening not over seven inches in diameter, and at least one-third of this opening protected by hood.

4. *Employees*.—Free from contagious disease and not dwelling in nor frequenting any place where contagious disease exists.

Milking Suits.—Freshly laundered and clean; ample to protect from dust and dirt from the milker's person or clothing.

Milker's Hands.—Hands and teats dry when milking. Hands thoroughly cleansed before milking each cow.

Milking Quietly.—So as to avoid dislodging dirt from cow's hair. At least four streams of foremilk to be discarded into a separate vessel.

5. *Cooling*.—Cooled within fifteen minutes of milking; to temperature below 45 degrees Fahrenheit.

Handling.—In a room used exclusively for handling milk, and free from dust, dirt, and odors; and the milk, after being cooled, always at a temperature below 45 degrees.

Protection During Transportation.—Protected from dirt by tightly closed receptacles; temperature always below 45 degrees Fahrenheit; not delayed in transit; reaching market within twenty-six hours after milking.

A more detailed score card is worthy of close study by all interested in the question of pure milk supplies. An excellent form,* with directions for use and suggestions, is as follows:

*U. S. Department of Agriculture Circular 139.

SANITARY INSPECTION OF DAIRIES

EQUIPMENT	SCORE		METHODS	SCORE	
	Per- fect	All- owed		Per- fect	All- owed
COWS			COWS		
Health.....	6		Cleanliness of cows..	8	—
Apparently in good health...	1		STABLES		
If tested with tuberculin once			Cleanliness of stables.....	6	..
a year and no tuberculosis is			Floor..	2	
found, or if tested once in six			Walls..	1	
months and all reacting ani-			Ceiling and ledges..	1	
mals removed	5		Mangers and partitions	1	
(If tested only once a year and			Windows..	1	
reacting animals found and			Stable air at milking time..	6	
removed, 2).			Barnyard well drained and clean..	2	..
Comfort	2		Removal of manure daily to field		
Bedding	1		or proper pit.....	2	..
Temperature of stable..	1		(To 50 ft. from stable, 1).		
Food (clean and wholesome)..	2		MILK ROOM		
Water	2		Cleanliness of milk room..	3	..
Clean and fresh	1		UTENSILS AND MILKING		
Convenient and abundant..	1		Care and cleanliness of utensils..	8	
STABLES.			Thoroughly washed and steri-		
Location of stable ..	2		lized in live steam for 30	5	
Well drained.	1		minutes ..		
Free from contaminating sur-			(Thoroughly washed and placed		
roundings	1		over steam jet, 4, thoroughly		
Construction of stable.	4		washed and scalded with		
Tight, sound floor and proper			boiling water, 3, thoroughly		
gutter	2		washed, not scalded, 2.)		
Smooth, tight walls and ceiling	1		Inverted in pure air	3	
Proper stall, tie and manger	1		Cleanliness of milking..	9	
Light 4 square ft. of glass per cow	4		Clean, dry hands..	3	
(Three sq. ft., 3; 2 sq. ft., 2; 1			Udders washed and dried...	6	
sq. ft., 1. Deduct for uneven			(Udders cleaned with moist		
distribution)			cloth, 4, cleaned with dry		
Ventilation Automatic system			cloth at least 15 minutes be-		
(Adjustable windows, 1)	3		fore milking, 1).		
Cubic feet of space for cow. 500 to			HANDLING THE MILK		
to 1,000 feet	3		Cleanliness of attendants ..	1	
(Less than 500 ft., 2, less than			Milk removed immediately from		
400 ft., 1, less than 300 ft., 0;			stable	2	
over 1,000 ft., 0)			Prompt cooling. (Cooled imme-		
UTENSILS			diately after milking each		
Construction and condition of			cow).	2	
utensils	1		Efficient cooling, below 50° F	5	..
Water for cleaning			(51° to 55°, 4; 56° to 60°, 2).		
(Clean, convenient, and abun-			Storage below 50° F.	3	
dant.)	3		(51° to 55°, 2; 56° to 60°, 1).		
Small top milking pail	1		Transportation: iced	3	
Facilities for hot water or steam			(For jacket or wet blanket al-		
(Should be in milk house, not in			low a dry blanket or covered		
kitchen)			wagon, 1.)		
Milk cooler..	1		MILK ROOM		
Clean milking suits ..	1		Location of milk room	2	
MILK ROOM			Free from contaminating sur-		
Location of milk room			roundings	1	
Free from contaminating sur-			Convenient	1	
roundings	1		Construction of milk room..	2	
Convenient			Floor, walls and ceiling	1	
Construction of milk room..			Light, ventilation, screens	1	
Floor, walls and ceiling	1		Total ..	40	
Light, ventilation, screens	1		Total.	60	

Score for equipment, plus score for methods, equals final score.

NOTE 1.—If any filthy condition is found, particularly dirty utensils, the total score shall be limited to 49.

NOTE 2.—If the water is exposed to dangerous contamination or there is evidence of the presence of a dangerous disease in animals or attendants, the score shall be 0.

Directions for Using Dairy Farm Score Card.

The card is arranged with separate columns for "Equipment" and "Methods" and allows a total of 40 to 60 points, respectively, for each. This arrangement of points is made for the purpose of emphasizing the importance of good methods and giving unmistak-

able credit for cleanliness. A person may be handicapped by poor buildings which he has inherited or leased and which he can not afford to rebuild; but he can be clean. Painsstaking methods, particularly in regard to cleanliness, will give a creditable score in spite of poor equipment.

Equipment.

Health of cows.—Cows should be healthy and in good condition. A dairy cow should not be badly emaciated or have a rough coarse coat, whether arising from insufficient feed, lack of care or disease. The herd is scored as a whole; if one animal in the lot has a swollen jaw, inflamed udder, running sore, or ulcerated teat, a proportional deduction should be made from the herd score, unless the inspector is satisfied that the milk from such cow does not enter into the general supply. It may be seen from the card that if the herd is tested with tuberculin once a year and no tuberculosis is found, or if tested once in six months and all reacting animals are removed, the score will be considered perfect and 5 points allowed. If tested only once a year and reacting animals are found and removed, 2 points are allowed.

Comfort of cows.—A cow secretes normal milk only when she is comfortable. Her nervous system may be so disturbed that her milk will be unwholesome, especially for babies. Cows should be bedded so as to promote their comfort, especially where the floor is of concrete. Dusty or mouldy hay or horse manure should not be used for bedding. The stable should be so constructed that the cow can be comfortable when the weather is inclement; wide cracks and very high ceilings should reduce the score.

Feed.—Feed should be free from mustiness or decomposition. Decaying silage, fermenting brewers' grains, distillery slops, or mouldy or dusty hay should reduce the score.

Water.—Drinking water must be clean and fresh; stagnant pools do not furnish proper drinking water for cows; neither do wells so located as to receive contamination from barnyard, sink drain, or privy. Sometimes the various watering devices are so misused that the water is neither clean nor fresh.

Light.—An abundance of light destroys bacteria and promotes the health of animals. In scoring the stable for light, the number of stanchions rather than the number of cows which happen to be in the barn at the time of inspection should be considered.

Ventilation.—Ventilation means the removal of impure air and the supplying of fresh air, without drafts on the animals, and in such a way as to conserve as much as possible the animal heat of the cows in cold weather. Consequently a stable with plenty of air space or with numerous openings to the outdoor air may be poorly ventilated. The stable should be scored for its adaptability to secure desired results when those results are needed, and not merely on conditions found at the time of the inspector's visit. A stable with open doors or with wide cracks in the sides should not be given credit for ventilation at any time. Large spaces in lofts or hay holes drawing the warmth away from the cows do not answer the full definition of ventilation, although they may afford pure air. A stable in which the cows have been kept over night should be comfortably warm in the morning without disagreeable animal odors. Score according to the system of ventilation in use, and see that it works properly. It will be noted on the score card that methods of venti-

lation that depend on the care and thoughtfulness of an attendant do not rate as high as those which are automatic.

Cubic space.—An overcrowded barn produces discomfort, is hard to keep clean and usually results in impure air. On the other hand, an excessive amount of space for each animal tends to waste the natural heat from the cows' bodies. A proper amount of space per animal is considered to be from 500 to 1,000 cubic feet. In sections where the winters are cold deductions should be made when the space exceeds the maximum amount. In scoring for cubic feet of air space per cow consider the number of stalls rather than the number of cows which happen to be present at the time of inspection. A stable having 50 stanchions with 15,000 cubic feet of space can properly be regarded as having 300 cubic feet per cow.

Stables.—Stables should be located on well-drained land and be free from contaminating surroundings. Horse stables, pigpens, chicken coops, stagnant water, manure piles, privies, etc., when near enough to pollute the stable air, should reduce the score.

The stable should have a tight, sound floor, incapable of absorbing liquids to any extent. Back of the cows should be a gutter (preferably of concrete) of sufficient capacity to hold the droppings and keep them from soiling the cows. A gutter 14 inches wide and 6 inches deep is recommended. It should have sufficient incline to drain readily unless the liquid manure is taken up by absorbents. Some form of swing stanchion is the best kind of tie, as it allows considerable freedom and keeps the animals out of the gutter. The manger should be as simple as possible. Cumbersome constructions serve to collect dust and prevent circulation of air, and they are difficult to keep clean. A low concrete trough or a smooth floor answers the purpose and is given a perfect score. Walls and ceilings should be smooth and tight.

Utensils.—Utensils should be of tin, with as few seams as possible. Seams which are unavoidable should be flushed smooth with solder. Rusty and battered tinware should not be used. Wire-gauze strainers should be avoided, also strainers which are complicated or have inaccessible parts, hard to clean. The water supply for washing utensils should be clean, abundant, and convenient, as the chances are against thorough cleansing when the water supply is meagre or inconvenient. Impure water may convey undesirable bacteria to the utensils; hence shallow wells receiving drainage of impure water are to be regarded with suspicion. No water from wells where drainage from house wastes or barnyard is possible should come in contact with milk utensils. Small-top milk pails should be used, as they keep out dirt and do much to promote clean milk.

Milking should be done in clean suits used only for that purpose and stored in a clean place when not in use. A milk cooler should be found in every room, as well as facilities for an abundance of hot water or steam. A boiler with plenty of steam for scalding all utensils is the perfect arrangement; but an abundance of boiling water which can be used while it is in a boiling condition is a good substitute.

Milk house.—Every dairy should have a milk house or milk room fitted especially for the business, in which milk can be strained, cooled, bottled or canned, and stored, and in which utensils can be washed and cared for. This should be convenient to the barn, as work is usually done best under convenient conditions. The milk house or room should not be near the hog pen, manure piles,

privy, or anything that might contaminate the air; if attached to the barn it should have an independent entrance; if entered from the barn it should be through a well ventilated passage-way with self-closing doors at each end, only one of which can be open at a time. The milk room should be light, well ventilated, and screened. Flies should never have access to milk. The floor should be smooth and of concrete, sloping so as to give good drainage; the edges should be rounded to prevent angles for collecting and harboring dirt. The walls and ceiling should be smooth and tight; concrete or tile wainscoting is desirable.

Methods.

Cows.—Cows are reasonably clean when carefully groomed each day and when long hairs on the flanks and udders are clipped. Dust on backs, particles of manure on sides or udders, and long hairs should deduct from score.

Stable.—Stable floors should be kept clean by frequent, careful sweeping and washing. An earth floor is undesirable. Walls should be free from manure. Joists, brackets, braces, tops of stanchions, partitions, ledges, and ceilings should be clean and free from dust and cobwebs. Mangers should be clean and sweet; care should be taken that there is no dirt or fermenting feed in cracks and corners. Whitewash should be freely applied on walls, ceilings, partitions, etc. Windows should be clean.

Air in stable.—The stable air should be free from dust or odors at time of milking. It may be contaminated by horses in the stable, by hogs in the basement, by manure in a cellar, by feeding silage just before milking, or by moving hay or other dusty fodder just before milking. When inspectors can not be present at the time of milking a reasonably accurate estimate of conditions can be reached by general appearances and by questioning the person in attendance as to time and manner of feeding, etc.

Manure.—The manure should be removed daily from the stable to such a distance as to preclude the chance of odors getting back. There should be no manure in the stable yard, which should be kept clean. Where conditions are favorable the ideal way is to remove the manure daily to the field. It should not be thrown into the barnyard.

Utensils.—All utensils should be clean to superficial inspection; no particles of dirt should be found in seams or concealed places; after washing the utensils should be scalded with boiling water or steam to sterilize them. They should then be inverted in pure air to drain. The highest score can be given only where there is an abundance of steam freely used. Boiling water can be used so as to be as effective as steam, but the ordinary equipment for heating water does not provide it in sufficient quantities and of sufficient heat to sterilize the utensils.

Milking.—Methods of milking should be clean. The milker should milk with clean dry hands. The cows' udders should also be clean; a perfect score is secured only by washing them thoroughly and then wiping dry with a clean towel. Wiping with a moist cloth is the next best thing, and wiping with a clean dry cloth gives one point on the score, if it is done several minutes previous to milking so that the dust can settle before the milking begins. If the milker after sitting down to milk gives the udder a rub with his hands or a dry cloth he may stir up dust that will fall back into the milk pail; such a method is generally worse than none.

It would be desirable to have all scoring done at milking time, but this is impracticable, as it would usually limit the work of the inspector to two or three dairies a day. Careful questioning by the inspector, with close examinations, will usually give him a fairly accurate idea of the method of milking. If, for instance, he is told that the udders are carefully washed daily, while inspection shows small lumps of manure attached to the long hairs near the teats, only one inference is possible.

Handling milk.—Milk as soon as drawn should be immediately removed from the stable so that it may absorb no odors or dust. If for convenience several milkers fill one can in the stable, a perfect score could not be given even if the can is promptly taken to the milk room when full, for it is bad practice to pour milk in the stable; but the score should be higher under such conditions than if the milk remained in the barn till all the cans were filled. When two cows or more are milked to fill a pail, which is then taken to the milk house, the score would not be quite perfect, but would be much better than where the milk is strained behind the cows.

As soon as the milk reaches the milk room it should be cooled. This is best performed by running it in a thin sheet over a surface kept cool by ice water. Spring water of a temperature under 60 degrees Fahrenheit has much merit for cooling milk, though not as good as ice. This process is sometimes carelessly called aerating, because aeration is an incident of the cooling; but aerating as such is not in favour with the best authorities. The object of this step in handling milk is to secure prompt and efficient cooling rather than aeration, and the advantages of such cooling more than offset any possible injury from the extra exposure of the milk to the air, even if it is relatively pure. Where milk is sold by the can it is frequently cooled by setting the cans in ice water or in spring water below 60 degrees F. This is better than no cooling, but not as satisfactory as running the milk over a cooler. Sometimes the evening milk is properly cooled, while the morning milk is delivered warm. This practice will give one-half the score for cooling providing the two kinds of milk are not mixed, in which case the score would be zero.

Storing.—This refers to conditions where the night's milk is held over for delivery in the morning. When the producer goes to the trouble and expense of two deliveries a day, that extra delivery can offset the absence of storing facilities and give him a perfect score on this item.

Transportation.—Transportation is to be scored from the same view point as stables, the adaptability of the method being the main point. It would be obviously unfair to cut a score made in midwinter because milk was not iced in transportation when the producer is in the habit of using ice in summer.

Twenty-one Suggestions.

The following are suggested as ideal conditions, which might be used as a basis for rules and regulations:

The Cows.

1. Have the herd examined frequently by a skilled veterinarian. Promptly remove any animals suspected of being in bad health. Never add an animal to the herd until certain it is free from disease, especially tuberculosis.
2. Never allow a cow to be excited by hard driving, abuse, loud talking, or unnecessary disturbances; do not unduly expose her to cold or storms.
3. Clean the entire body of the cow daily. Hair in the region of the udder

should be kept short. Wipe the udder and surrounding parts with a clean, damp cloth before milking.

4. Do not allow any strong-flavored feed, such as garlic, cabbage, or turnips, to be eaten except immediately after milking.

5. Salt should always be accessible.

6. Radical changes in feed should be made gradually.

7. Have fresh, pure water in abundance, easy of access, and not too cold.

The Stables.

8. Dairy cattle should be kept in a stable where no other animals are housed, preferably without cellar or storage loft. Stable should be light (4 square feet of glass per cow) and dry, with at least 500 cubic feet of air to each animal. It should have air inlets and outlets, so arranged as to give good ventilation without drafts of air on cows. The presence of flies may be reduced by darkening the stable and removing the manure as directed below.

9. The floors, walls, and ceilings of the stable should be tight, walls and ceilings being kept free of cobwebs and whitewashed twice a year. There should be as few dust-catching ledges and projections as possible.

10. Allow no musty or dirty litter or strong-smelling material in the stable. Store manure under cover at least 40 feet from the stable in a dark place. Use land plaster daily in gutter and on floor.

Milk House.

11. Cans should not remain in the stable while being filled. Remove the milk of each cow at once from the stable to a clean room; strain immediately through cotton flannel or absorbent cotton; cool to 50 degrees Fahrenheit as soon as strained; store at 50 degrees Fahrenheit or lower. All milk houses should be screened.

12. Milk utensils should be made of metal, with all joints smoothly soldered, or, when possible, should be made of stamped metal. Never allow utensils to become rusty or rough inside. Use milk utensils for nothing but handling, storing, or delivering milk.

13. To clean dairy utensils use pure water only. First rinse the utensils in warm water; then wash inside and out in hot water in which a cleansing material has been dissolved; rinse again; sterilize with boiling water or steam; then keep inverted in pure air that may have ready access, and sun if possible, until ready for use.

Milking and Handling Milk.

14. The milker should wash his hands immediately before milking and should milk with dry hands. He should wear a clean outer garment, which should be kept in a clean place when not in use. Tobacco should not be used while milking.

15. In milking be quiet, quick, clean, and thorough. Commence milking at the same hour every morning and evening, and milk the cows in the same order.

16. If any part of the milk is bloody, stringy, or unnatural in appearance, or if by accident dirt gets into the milk pail, the whole mess should be rejected.

17. Weigh and record the milk given by each cow.

18. Never mix warm milk with that which has been cooled, and do not allow milk to freeze.

19. Feed no dry, dusty feed just previous to milking.

20. Persons suffering from any disease, or who have been exposed to a contagious disease, must remain away from the cows and the milk.

21. It is needless to say that the shorter the time between the production of milk and its delivery, and between delivery and use, the better will be the quality of the milk.

IV.—DISEASES OF ANIMALS.

Twelve examinations relating to diseases of animals were carried out for the following places: Alix, Edmonton, Galahad, High River, Innisfail, Midway, B.C., Ohrnville, Okotoks, Olds and Stettler. An outbreak of rabies in Red Deer and Innisfail was confirmed by laboratory examination of the brain of one of the affected dogs. This showed the typical Negri bodies and rabbits inoculated from the brain died with characteristic symptoms of the disease. Happily the vigorous measures instituted by the Health of Animals Branch quickly limited the spread of this dread malady and apparently

stamped it out completely. For a description of the symptoms and the proper procedure in suspected cases or concerning dog-bites see the 1908 annual report of this laboratory.

V.—ALFALFA INOCULATION.

A few farmers were furnished with cultures and directions for inoculating alfalfa seed with nitrifying bacteria. Owing to the much better results obtainable with soil from old alfalfa fields, the laboratory has discontinued supplying cultures. The Experimental Farms at Lacombe and Lethbridge furnish farmers with the inoculated soil on request.

VI.—LIQUOR ANALYSIS.

Forty-three analyses were made for the Liquor License Branch of the Department of the Attorney General and for the R.N.W.M.P. and other police authorities. These samples included beer, whiskey, rum, cider, lemon extract, and a variety of Chinese liquors.

VII.—MEDICO-LEGAL EXAMINATIONS.

Investigations were made for cases of suspicious poisoning at Calgary, Claresholm, Red Deer, Edmonton, Holmes Crossing, Lamont and Medicine Hat.

Such examinations are made for the Department of the Attorney General and for police authorities. Occasionally private individuals submit specimens but these are referred to the proper authorities, and I may take occasion here to point out to any person interested in the detection of a case of poisoning that all the circumstances should be first reported to the police authorities. Only in this way is it possible to have the best chance of detecting the guilty parties and bringing them to justice if the poisoning is with criminal intent.

VIII.—MISCELLANEOUS.

The production of vaccine and antitoxic sera, and the anti-rabic treatment of persons bitten by mad dogs require a staff of highly trained assistants and somewhat extensive laboratory accommodation and facilities. These lines of work therefore come at an advanced stage in the evolution of state laboratories. Meanwhile the keen competition among commercial laboratories producing these necessities ensures a satisfactory supply at reasonable cost to those requiring them.

Research.

Just as it is the duty of every physician to endeavour continually to add to his knowledge of medicine and when possible to add to the general fund of medical knowledge, so it is a duty and a necessary function of every laboratory organization to carry on systematic research. Only by so doing can the laboratory maintain its vitality, make progress and realize its highest usefulness. The results of the research work should be published both in the appropriate scientific journals and also in the regular reports of the laboratory. A recognized place for research work in the activities of a laboratory attracts to its staff men of much higher ability and value than are otherwise obtainable even for adequate salaries. The public thus

derives a double benefit from the judicious inclusion of research as one of the functions of the state laboratory.

Finally, a word as to educational work as a function of a public health laboratory: This is not a novel thing for such to undertake as part of its serious and routine business. It is useful and necessary work which can be well and successfully undertaken by the laboratory for several reasons: Its statements are accepted as authoritative; it has the necessary information for a proper campaign of instructing the people; it is in pretty close touch with most of the people who are directly in need of certain definite instruction; and such work can very often be most profitably combined with other duties, for instance, epidemiological investigation.

D. G. REVELL,
Director.

12.—APPENDICES.

APPENDIX A.

ALBERTA HORSE BREEDERS' ASSOCIATION.

ELEVENTH ANNUAL REPORT.

HON. DUNCAN MARSHALL,
Minister of Agriculture.

SIR,—I have the honour to submit herewith the eleventh annual report of the Alberta Horse Breeders' Association for the year 1909.

The annual meeting was held in the Drill Hall, in the City of Calgary on April 4th, 1910, the following being the minutes of the meeting:

MINUTES OF THE ANNUAL MEETING.

The president, Mr. Geo. Hoadley, M.P.P., in the chair.

The retiring president addressed the meeting, and then called upon the secretary to read the minutes of the last meeting and the annual report.

The minutes were adopted as read.

Moved by Mr. J. R. Thompson, seconded by Mr. Fred Johnston,—

That the annual report be adopted as read.

Moved by Mr. Duncan Clark, seconded by Mr. E. C. Hallman,—

That the financial report be adopted as read.

The president then called upon the Hon. Mr. Marshall, Minister of Agriculture for Alberta, for an address. Mr. Marshall explained to the meeting that he did not intend to make a lengthy address. He was at the meeting chiefly to hear the discussion, and learn at first hand the requirements of the Horse Breeders of Alberta. He complimented the association on the splendid stock which was at the exhibition grounds ready for the show, and also referred to the arrangements which had been made which would undoubtedly carry the show through to a successful conclusion, to the benefit of the horse interests of Alberta, as well as to the province generally.

A discussion then took place as to the advisability of having all the horses entered for exhibition inspected by a veterinary for hereditary unsoundness before being shown, and after the matter had been discussed at some length it was moved by Mr. E. C. Hallman, seconded by Mr. McIntosh, that the matter be referred to the directors for action.—Carried unanimously.

The question of issuing certificates to grade stallions travelling within the province was then discussed at considerable length. Some were of the opinion that grade stallions should not be permitted to travel. Others considered it a good protection to inexperienced horse breeders to have grade stallions enrolled as at present, so that the owners, if asked to produce a certificate, would have to show an enrolment certificate stating that the animal was a grade. Others again were of the opinion that this grade enrolment certificate was often used to lead persons to believe that the horse was a purebred.

Moved by D. Thorburn, seconded by E. C. Hallman,—

That the Department be asked to enroll purebred and registered stallions only, and that the legislation affecting enrolment of stallions be amended so that grade stallions shall not require certificates of enrolment before being allowed to travel.—Carried.

Moved in amendment by E. C. Hallman, seconded by J. R. Thompson, that as this matter should receive very careful consideration before being dealt with, it be referred to the directors for action.—Carried.

Election of Officers.

The election of officers was then proceeded with, and resulted as follows:

President	Geo. Lane, Calgary.
1st Vice-President	E. C. Hallman, Airdrie.
2nd Vice-President	D. Thorburn, Davisburg.
Secretary-Treasurer and Managing Director	E. L. Richardson, Calgary.

Breed Directors.

Clydes	John A. Turner, Calgary.
Shires	Geo. Hoadley, Okotoks.
Percherons	W. B. Thorne, High River.
Thoroughbreds	Capt. Inglis, Calgary.
Coach Breeds	G. E. Goddard, Cochrane.
Standardbreds	I. G. Ruttle, Calgary.
Hackneys	Wm. Moodie, De Winton.
Ponies	O. E. Brown, Calgary.
Suffolk Punch	Geo. Jaques, Lamerton.
Belgians	Baron Geo. Roels, Calgary.
Heavy Draught	Hugh McPherson, Calgary.
Cartage	E. D. Adams, Calgary.
Roadsters	Fred Johnston, Calgary.
Carriage	C. Riddock, Calgary.
Agriculture	H. Banister, Davisburg.
Delivery	Mr. Christie, Calgary.
Saddle	R. F. Bevan, Cochrane.

General Directors.

F. W. Ings, Nanton.	Dr. Hargrave, Medicine Hat.
E. Bedingfield, Pekisko.	D. Clark, Jr., Gleichen.
Thos. McMillan, Okotoks.	

Honorary Directors.

T. J. Scott, Edmonton.
W. F. Stevens, Live Stock Commissioner, Edmonton.
C. W. Peterson, Calgary.

Ex-Officio Directors.

Dr. J. G. Rutherford, Live Stock Commissioner, Ottawa.
Hon. Duncan Marshall, Minister of Agriculture, Edmonton.

Auditor.

Francis R. Exham, Calgary.

The meeting then adjourned.

ANNUAL REPORT OF THE SECRETARY.

GENTLEMEN,—I take pleasure in presenting herewith the eleventh annual report of the Alberta Horse Breeders' Association, being for the year 1909.

SPRING HORSE SHOW.

The past year has been one of the most important in the history of the Alberta Horse Breeders' Association. During the year the first annual evening horse show in Alberta was inaugurated, and together with the spring stallion show, proved far more successful than anticipated. There were no less than 615 entires and a total of 407 animals. The chief difficulties in connection with the holding of a successful horse show were the securing of the necessary financial

assistance, and a suitable building for the show. The Alberta Government were asked to increase their annual grant from \$400 to \$800 in order to assist in this work, and generously conceded to our request. The Calgary city council also gave a grant of \$500 towards the undertaking, and the merchants of Calgary and members of the Horse Breeders' Association jointly donated the sum of \$1,107, and with the annual grant of \$216 from the Dominion Government, the directors felt justified in inaugurating the first annual indoor horse show.

The most suitable building that could be obtained for the show was Sherman's Auditorium, a building which proved as satisfactory as could be expected in the absence of a building specially erected for the holding of a horse show. Considerable difficulty was experienced in preparing the floor of the building, so that horses would not slip, and this involved a considerable amount of expense, the hardwood floor having to be first floored with plank and then covered with litter and sawdust to a depth that would prevent slipping. Considerable expense was also involved in providing extra seating accommodation, which accommodation, owing to the plan of the building, could not be arranged absolutely satisfactory.

While improved facilities can be provided for the next show in the same building, owing to the experience of the past year it is very desirable that some arrangement should be made for a special horse show building at the earliest opportunity.

The attendance at the horse show was very gratifying, the total receipts being slightly over \$2,000, and, while the building was fairly well filled on every occasion, one evening a considerable number had to stand. With the success of the past show, and with suitable seating accommodation, I believe the attendance within the next year or two can be about trebled. The quality and number of exhibits was undoubtedly a surprise to everyone. Never having seen our horses together on such an occasion, we do not realize that such a number of good horses were in our midst, and that they could be brought out in such splendid condition. The members of the Horse Breeders' Association are to be congratulated on the showing made on this occasion, and particularly the merchants of Calgary, who took such a keen interest in the show, making generous donations, and in bringing out their entires in such splendid condition.

The following is a list of the prize winners at the Horse Show:

CLYDESDALES.

Stallions, five years and over.

1st	Baron Moncton	Wm. Moodie	De Winton.
2nd	Sonsie's Best	Wm. Moodie	De Winton.
3rd	Bunden Boy	John Graham	Carberry, Man.
4th	Celtic Duke	J. R. Hinshaw	High River.
5th	Mount Clifton	James Clark	Crowfoot.

Stallions, three years old.

1st	Etonian	John A. Turner	Calgary.
2nd	Dunure Pebble	Smith & Richardson	Calgary.
3rd	Mainspring	Duncan Clark	Crowfoot.
4th	Baron Ailsa	E. D. Adams	Calgary.

Stallions, two years old.

1st	Masterpiece	Bryce Wright	DeWinton.
2nd	Economist	John A. Turner	Calgary.

3rd	Colonel McQueen.	James Clark.	Crowfoot.
4th	McGuire of Crowfoot.	John Clark, Jr.	Gleichen.

Stallions foaled in 1908.

1st	Proud Descent	John A. Turner	Calgary.
2nd	Sonsie Boy.	Wm. Moodie.	DeWinton.
3rd	Sonsie's Elect	Wm. Moodie	DeWinton.
4th	Lyndoch McQueen	Duncan Clark.	Crowfoot.

Filly foaled in 1908.

1st	Choice Queen.	Bryce Wright	DeWinton.
2nd	Choice Lass.	John A. Turner	Calgary.
3rd	Bessie Afton.	D. S. Shantz.	Didsbury.
4th	Lady Afton.	D. S. Shantz	Didsbury.

Clydesdale Stallion, any age, bred in Canada.

1st	Masterpiece.	Bryce Wright.	DeWinton.
2nd	Sonsie's Best.	Wm. Moodie.	DeWinton.
3rd	Proud Descent.	John A. Turner.	Calgary.
4th	Colonel McQueen	James Clark	Crowfoot.
5th	Master McQueen	James Clark	Crowfoot.

Mare three years or over.

1st	Rosie McLaren.	John A. Turner	Calgary.
2nd	Sweet Barlae	Bryce Wright.	DeWinton.
3rd	Bog Davie Queen	John Clark, Jr	Gleichen.

Two year old filly.

1st	May Steel	John A. Turner	Calgary.
2nd	Hattie MacClure	John Clark, Jr.	Gleichen.

Stallion four years old.

1st	King Sam	John A. Turner.	Calgary.
2nd	Prospero.	McPherson Bros.	Calgary.
3rd	McCaul	John A. Turner	Calgary.
4th	Prince of Roumania	Peter Robertson	High River.

Three (purebred or grade), any age or sex, bred in Alberta, the progeny of one registered sire.

1st	Progeny of Sonsie's Best.	Wm. Moodie	DeWinton.
2nd	Progeny of Bar Harrow.	J. Hallman & Sons	Airdrie.

Best Clydesdale stallion, any age.

1st	Etonian.	John A. Turner	Calgary.
2nd	Masterpiece	Bryce Wright	DeWinton.

Best Clydesdale female, any age.

1st	Choice Queen	Bryce Wright	DeWinton.
2nd	Lady Steel	John A. Turner	Calgary.
3rd	Choice Lass	John A. Turner.	Calgary.

SHIRES.

Stallion, three years or over.

1st	Turntree Sweep	John Lee.	High River.
2nd	Turntree Juvenal.	John Lee.	High River.

Three, purebred or grade, any age or sex, bred in Alberta, the progeny of one registered sire.

1st	Baldos	James Wood.	High River.
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PERCHERONS.

Stallion, four years or over.

1st	Epetant	Geo. Lane	Pekisko.
2nd	Takeon	E. J. Wigle	Calgary.
3rd	Grison	E. J. Wigle	Calgary.

Stallion, three years old.

1st	Gornay	Geo. Lane	Pekisko.
2nd	Theodore	E. J. Wigle	Calgary.
3rd	Prince Adolphus	E. J. Wigle	Calgary.

Stallion, two years old.

1st	Dido	Geo. Lane	Pekisko.
2nd	Theodore	E. J. Wigle	Calgary.

Stallion foaled in 1908.

1st	Brigadier	Geo. Lane	Pekisko.
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Mare, two years old and over.

1st	Mauvette	Geo. Lane	Pekisko.
2nd	Pantomine	Geo. Lane	Pekisko.

Filly, foaled in 1908.

1st	Alberta	Geo. Lane	Pekisko.
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SPECIALS BY THE CANADIAN PERCHERON ASSOCIATION.

Best Percheron stallion, any age (open).

1st	Epetant	Geo. Lane	Pekisko.
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Best Percheron female, any age (open)

1st	Gaudiamne	Geo. Lane	Pekisko
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BELGIANS.

Stallion, three years and over.

1st	Pompom	R. Pirmez	Calgary.
2nd	Major II de Tiernes	R. Pirmez	Calgary.

Mare, two years and over.

1st	Bellone	R. Pirmez	Calgary.
2nd	Liza II de Opl rakel	R. Pirmez	Calgary.

Filly, foaled in 1908.

1st	Diane	R. Pirmez	Calgary.
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Best Belgian Stallion, any age (open).

1st	Pompom	R. Pirmez	Calgary.
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Best Belgian Female, any age (open).

1st	Bellone	R. Pirmez	Calgary.
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BELGIAN SPECIAL.

Three (purebred or grade, any age or sex).

1st	Progeny of Pothin (Three)	R. Pirmez	Calgary.
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SUFFOLK PUNCH.

Stallion, four years or over.

1st	Sproughton Marquis	F. J. Hartell	Cheadle,
2nd	Rendlesham May King	Archie Jaques	Lamerton.
3rd	Rendlesham Snow King	Norman Jaques	Ingleton.

Stallion, three years old.

1st	Benedict.....	Archie Jaques.....	Lamerton.
2nd	Rendlesham Major.....	Archie Jaques.....	Lamerton.
3rd	Rendlesham Matchem.....	Archie Jaques.....	Lamerton.

Mare, two years or over.

1st	Erwarton Sunbeam.....	Archie Jaques.....	Lamerton.
2nd	Sudbourne Alice.....	Archie Jaques.....	Lamerton.

Best Suffolk Stallion, any age (open).

1st	Sproughton Marquis.....	F. J. Hartell.....	Cheadle.
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Best Suffolk Female, any age (open).

1st	Erwarton Sunbeam.....	Archie Jaques.....	Lamerton.
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Heavy Grade Foals.

1st	Scotty.....	Thos. Cronie.....	De Winton.
2nd	Sonsie's Stamp.....	Wm. Moodie.....	De Winton.
3rd	Pearl.....	J. Hallman & Sons.....	Airdrie.

LIGHT HORSES—THOROUGHBREDS.

Stallion, three years old and over.

1st	Charloss.....	H. R. A. West.....	Gleichen.
2nd	Chanter.....	W. H. Cochrane.....	Millarville.
3rd	Gay Boy.....	Le Sueur & Campbell.....	Glenbow.

Mare, two years and over.

1st	Iras.....	B. S. Mitchell.....	Calgary.
2nd	Renewal.....	David A. Campbell.....	Calgary.
3rd	Barm.....	David A. Campbell.....	Calgary.

Filly, foaled in 1908.

1st	Filly.....	Cecil Nibbs.....	Calgary.
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Best Thoroughbred Stallion, any age.

1st	Charloss.....	H. R. A. West.....	Gleichen.
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Best Thoroughbred Female, any age.

1st	Iras.....	B. S. Mitchell.....	Calgary.
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THOROUGHBRED SPECIAL.

Three (purebred or grade, any age or sex) bred in Alberta, the progeny of one registered sire.

1st	Kingfisher } Chaperone } Charmer }	W. H. Cochrane.....	Millarville.
2nd	Knell's Maiden } Fisher's Queen } Mabel }	Jos. Fisher.....	Millarville.

STANDARD BREDS.

Stallion, three years old and over, to be shown in harness to an appropriate vehicle.

1st	General H.....	Wm. Parslow.....	Calgary.
2nd	Klein Ream.....	Geo. T. Haag.....	Calgary.
3rd	Sir Jain.....	A. McKillop.....	Calgary.

Stallion, two years old.

1st Game Regal Chas. Henry.Calgary.

Stallion foaled in 1908.

1st Hillside AmosThos. MacMillanOkotoks.

Mare, two years and over.

1st BeulahWm. ParslowCalgary.

2nd Queen Be Sure Chas. HenryCalgary.

3rd KooteniI. G. Ruttle & CoCalgary.

Filly foaled in 1908.

1st Ethel Be Sure Chas. HenryCalgary.

Best Standardbred Stallion, any age.

1st Game Regal Chas. HenryCalgary.

Best Standard Female, any age.

1st BeulahWm. ParslowCalgary.

HACKNEYS.

Stallion, four years old or over.

1st AgilityWm. MoodieDe Winton.

2nd JesterWm. MoodieDe Winton.

3rd AlertThos. MacMillanOkotoks.

Stallion, three years old.

1st Seaham Mason John A. TurnerCalgary.

Stallion, two years old.

1st MerodakWm. MoodieDe Winton.

Mare, two years or over.

1st FlossyJohn A. TurnerCalgary.

2nd Silver CrossWm. ParslowCalgary.

Best Hackney Stallion, any age,

1st Seaham Mason John A. TurnerCalgary.

Best Hackney Female, any age.

1st FlossyJohn A. TurnerCalgary.

COACH BREEDS.

Three (purebred or grade, any age or sex) bred in Alberta, the progeny of one registered sire.

1st	Banjo	}	 C. E. GoddardCochrane.
	Whistler		
	Geraldine		
2nd	Manzanita		
	Senorita	}	C. E. GoddardCochrane.
	Gold Dust		

DEPARTMENT OF AGRICULTURE

GRADE FOALS (LIGHT).

Grade foals of both sexes, foaled in 1908.

1st	Senorita...	C. E. Goddard	Cochrane.
2nd	Gold Dust..	C. E. Goddard	Cochrane.
3rd	Manzanita.	C. E. Goddard	Cochrane.

ROADSTERS.

Pair of trotting mares or geldings, three years old and over. To be shown to an appropriate four wheeled vehicle.

1st	Dime and Penny	Chas. Riddock.	Calgary.
2nd	Doc and Robin	J. H. Wetmore..	Calgary.
3rd	Ravelle and Ravellus	Thos. MacMillan	Okotoks.

Single trotting horse, mare or gelding, three years or over.

1st	Alfondley	W. Stuart & Co	Calgary.
2nd	Beulah	Wm. Parslow	Calgary.
3rd	Dime	Chas. Riddock	Calgary.

Pair of pacing mares, or geldings, three years and over.

1st	Queen and Fred	I. G. Ruttle & Co	Calgary.
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Single pacing mare or gelding, three years old and over.

1st	Ben C	C. H. Griffith.	Calgary.
2nd	Promptmont	Geo. T. Haag	Calgary.
3rd	Hardware Boy	E. C. Hall	Calgary.

Team of drivers shown to an appropriate vehicle.

1st	Ravalle and Ravallus	Thos. MacMillan.	Okotoks.
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CARRIAGE, COACH AND HACKNEY HORSES.

Pair of mares or geldings.

1st	Dan and Silver.	G. E. Goddard	Cochrane.
2nd	John and Browney.	P. Burns.	Calgary.
3rd	Nelson and Comox	Mrs. I. S. G. VanWart.	Calgary.

Mare or Gelding.

1st	Nelson	Mrs. I. S. G. VanWart.	Calgary.
2nd	Nellie.	Geo. Hardie and J. A. Young.	Calgary.
3rd	Flossy.	John A. Turner	Calgary.

High Stepper, mare or gelding.

1st	Comox..	Mrs. I. S. G. VanWart.	Calgary.
2nd	Gay Boy	R. J. Scott	Lacombe.
3rd	Silver	G. E. Goddard	Cochrane.

Pair of high steppers, mares or geldings, 14.2 and over.

1st	Nelson and Comox.	Mrs. I. S. G. VanWart..	Calgary.
2nd	Silver and Dan.	G. E. Goddard.	Calgary.

Team of drivers shown to an appropriate vehicle.

1st	Dan and Silver.	G. E. Goddard.	Cochrane.
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TANDEM AND COMBINATION HORSES.

Tandems, mares or geldings, 14.2 hands and over.

1st	Dan and Silver....	G. E. Goddard	Cochrane.
2nd	Nig and Prince...	Chas. Riddock.	Calgary.

Four-in-hand, 15 hands and over.

1st		Chas. Riddock.....	Calgary.
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Combination horse, mare or gelding, 15.1 hands and under.

1st	Jessica	G. E. Goddard	Cochrane.
2nd		W. G. Hooley	Millarville.
3rd	Grey Boots	Wm. F. Ingpen	Calgary.

Combination horse, mare or gelding, over 15.1.

1st	Comox	Mrs. I. S. G. VanWart	Calgary.
2nd	Banjo	G. E. Goddard	Cochrane.
3rd	John	P. Burns	Calgary.

GENERAL CLASSES.

Best Decorated Turnout.

1st	Pacific Cartage Co	Calgary.
2nd	L. T. Mewburn & Co	Calgary.
3rd	Calgary Fire Department.	

Single drivers, owned and driven by a physician.

1st	Jack	Dr. Lindsay	Calgary.
2nd	Flossy	Dr. Douglas M. Gray	Bowden.

DRAUGHT HORSES.

Four-horse team, each horse to weigh 1,300 lbs. and over.

1st	J. Hallman & Sons	Airdrie.
2nd	Pacific Cartage Co	Calgary.
3rd	Pacific Cartage Co	Calgary.

Team in harness only, each horse to weigh 1,500 lbs. or over.

1st	Fanny and Bob	J. Hallman & Sons	Airdrie.
2nd	Sudbourne Alice and Erwar-	Archie Jaques	Lamerton.
	ton Sunbeam		
3rd	Peter and Bob	Pacific Cartage Co	Calgary.

Team, in harness only, each horse to weigh under 1,500 lbs., but not less than 1,300.

1st	Minnie and Maud	Pacific Cartage Co	Calgary.
2nd	Brownie and Bob	Calgary Fire Department.	
3rd	Briette and Daisy	E. J. Wigle	Calgary.

Mare or gelding, 1,500 lbs. or over.

1st	Fanny	J. Hallman & Sons	Airdrie.
2nd	Bob	J. Hallman & Sons	Airdrie.
3rd	Peter	Pacific Cartage Co	Calgary.

Mare or gelding, under 1,500 lbs., but not less than 1,300.

1st	Rosalind	J. Hallman & Sons	Airdrie.
2nd	Mary	F. W. Ings	Nanton.
3rd	Rowdy	W. Stuart & Co	Calgary.

Special, offered by Pacific Cartage Co.—Pair of Grade Horses, mares or geldings, four years old and not over seven.

1st	Fanny and Bob	J. Hallman & Sons	Airdrie.
2nd	Nell I and Queenie I	McPherson Bros.	Calgary.

Heavy Draft Grade Team.

1st	Fanny and Bob	J. Hallman & Sons	Airdrie.
2nd	Bob and Peter	Pacific Cartage Co	Calgary.
3rd	Rex	Calgary Brewing and Malting Co.,	Calgary.

DEPARTMENT OF AGRICULTURE

GENERAL CITY DELIVERIES.
(Open to all cities and towns.)
HEAVY DRAUGHT GRADE.

Mare or Gelding, shown to express or delivery rig (open to all).

1st	Fanny.	J. Hallman & Sons	Airdrie.
2nd	Bob	J. Hallman & Sons	Airdrie.
3rd	Peter	Pacific Cartage Co.	Calgary.

Mare or Gelding, shown to express or delivery rig (open to all).

1st	Ontario Laundry Co.	Calgary	Light.
	W. Stuart & Co.	Calgary	Heavy.
2nd	P. Burns & Co.	Calgary	Light.
	P. Burns & Co.	Calgary	Heavy.
3rd	Hudson's Bay Co.	Calgary	Light.
	J. T. McDonald	Calgary	Heavy.

Team as used by wholesalers, retailers or manufacturers, Light.

1st	Ontario Laundry	Calgary.
2nd	Hudson's Bay Co	Calgary.
3rd	F. Rochon	Calgary.

Heavy.

1st	P. Burns & Co	Calgary.
2nd	W. Stuart & Co	Calgary.
3rd	Calgary Brewing and Malting Co., Ltd	Calgary.

Team as used by Cartage Co. or Corporation.

1st	Pacific Cartage Co	Calgary.
2nd	Pacific Cartage Co.	Calgary.
3rd	Pacific Cartage Co.	Calgary.
4th	P. Burns & Co.	Calgary.

Special offered by Canadian Bank of Commerce for Grand Championship.

P. Burns	Calgary.
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Livery rigs as let for hire,—Pair of mares or geldings.

1st	I. G. Ruttle & Co	Calgary.
2nd	Chas. Riddock	Calgary.
3rd	Harvey & Officier	Calgary.

Mare or Gelding.

1st	Geo. Hardy and J. A. Young	
2nd	Geo. Hardy and J. A. Young.	
3rd	Chas. Riddock.	Calgary.

Mare or Gelding 14.2 hands and over.

1st	Chas. Riddock.	Calgary.
2nd	Chas. Riddock	Calgary.

HARNESS, SADDLE AND COMBINATION PONIES.

Lightweight Polo Pony, or pony suitable for polo.

1st	Robies.	Mrs. Pomery	Priddis.
2nd	Molly.	Insp. A. E. Shaw	Calgary.
3rd	Bullion.	A. M. McKay, V.S.	Calgary.

Heavyweight Polo Pony, or pony suitable for polo.

1st	Billy.	W. Hooley.	Calgary.
2nd	Modesty.	Maurice J. Carr	Calgary.
3rd	Pretty	K. J. Snowden	Pekisko.

Pony, 14.2 hands and under.

1st	Jessica.	G. E. Goddard ..	Cochrane.
2nd	Modesty	Maurice J. Carr.	Calgary.
3rd	Grey Boots	Wm. F. Ingpen.	Calgary.

Pair of Ponies, 14.2 hands and under.

1st	Jock	Gilbert Hodgson.	Calgary.
2nd	Tweedledee	A. C. Landale	Millarville.
3rd	Modesty	Maurice J. Carr	Calgary.

Shetland Ponies.

To be ridden by boy or girl under 15 years of age.

1st	C. E. Tillotson	Claresholm.
2nd	I. G. Ruttle & Co	Calgary.

Pony, other than Shetland, 14 hands and under.

1st	Jack	Mildred and Elsie Millar.	Millarville.
2nd	Kingsford Kid	Cecil Nibbs.	Calgary.
3rd	Maximus	G. de Roaldes and H. Dubern,	Calgary.

Combination Pony, 14 hands and under.

1st	Bessie	Gilbert Hodgson	Calgary.
2nd	Jack	Mildred and Elsie Millar	Millarville.
3rd	Sunshine	Russell H. Turner	Calgary

SADDLE HORSES. (No registration conditions.)

Saddle Horses, over 14.2 hands, open to stallions, mares or geldings.

1st	John.	P. Burns	Calgary.
2nd	Pat	Sam Baird	Calgary.
3rd	Kismet	H. Payn Le Suer.	Glenbow.

Mare or Gelding, under English or Stock Saddle, over 15½ hands.

1st	Pride	D. P. McDonald	Cochrane.
2nd	Peacock	P. Burns	Calgary.
3rd	Whistler	G. E. Goddard.	Cochrane.

Mare or Gelding, under English or Stock Saddle, 15½ hands or under, but over 14.2.

1st	Billy	R. Riddell, V.S	Calgary.
2nd	Pat.	Sam. Baird.	Calgary.
3rd	Gee-Gee	E. L. MacBride	Millarville.

Grand Champion Saddle Horse.

Pride	E. L. MacBride	Millarville.
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Lady's Saddle Horse, Mare or Gelding, 14.2 hands and over.

1st	Pride.	D. P. McDonald.	Cochrane.
2nd	Brownie	Mrs. E. Atkinson	Calgary.
3rd	John.	P. Burns.	Calgary.

Military Remount, mare or gelding.

1st	Pride	D. P. McDonald.	Cochrane.
2nd	Kid.	Geo. B. Bruce.	Calgary.
3rd	Billy.	R. Riddell, V.S.	Calgary.
4th	Rooksby.	F. C. Lowes.	Calgary.

HUNTERS.

Hunter, mare or gelding, 14.2 and under.

1st	Maximus		G. de Roaldes and H. Dubern, Calgary.
2nd	Pompey.		Bailey BrosCalgary.
3rd	Robies		E. L. MacBrideMillarville.

Hunter, mare or gelding, over 14.2.

1st	Pride.		D. P. McDonald	Cochrane.
2nd	Peacock		P. Burns	Calgary.
3rd	Smokey		D. P. McDonald	Cochrane.

High Jump.

1st	D. P. McDonald		Cochrane.
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Mare or Gelding, 14.2 and under.

1st	Brownie		Mrs. E. Atkinson..	Calgary.
2nd	Bullion..		A. M. McKay, V.S..	Calgary.
3rd	Goldie		D. P. McDonald	Cochrane.

Mare or gelding, over 14.2.

1st	Rowdy		A. M. McKay	Calgary.
2nd	Charlie		W. J. Watson	Calgary.
3rd	Kid		Geo. B. Bruce	Calgary.

FINANCIAL STATEMENT.

The financial statement given below shows an overdraft of \$654.77, which overdraft shows a loss of \$209.86 on the year's work. The heavy expenditure in connection with fitting up the horse show building is in a large measure responsible for the increase in the deficit, and in order to provide sufficient funds for the carrying on of the show in the future, the directors have found it necessary to ask the Provincial and Dominion governments for a considerable increase in the amount of their grants, and it is hoped that before this report is presented the government will have placed the association on such a footing financially that they will be justified in continuing their work of endeavouring to make the annual Alberta provincial horse show famous throughout the Dominion.

Receipts.

Membership	\$217.00
Grant from Provincial Department of Agriculture	800 00
Grant from Dominion Department of Agriculture.	216 67
Grant from City of Calgary	500 00
Donations	1,107 00
Entries	778 00
Gate receipts	2,008 75
Advertising	100 00
Sundries—	
Protest.	\$10.00
Sale of sawdust.	37.50
Refunds	39 00
Exchange	15
	86 65
Total	\$5,814 07

Disbursements.

Overdraft, 1908	\$346 91
Prizes.	2,708 86
Office expense and salaries	1,413.15

Printing and advertising	\$ 285 61
Grounds expense and extra help	1,632 46
Interest	5 20
Refunds	76 65
Total	\$6,468 84
Overdraft	\$ 654 77

Examined and found correct, 8th February, 1910,

(Sgd.) FRANCIS R. EXHAM,

Auditor.

THE HORSE INDUSTRY.

The horse business appears to be on a very satisfactory basis in the province at the present time. There is a considerable increase in the number of horses in the province this year over last year, and the value per horse is also increasing. It is estimated that there are in Alberta 263,217 horses, in Saskatchewan 279,063 and in Manitoba 237,161. The shipments over the Canadian Pacific Railway in Alberta in 1909 were 20,211, valued approximately at \$2,324,265. The horse business appears to be in a very flourishing condition also in the United States as shown by the following clipping from the *Western Horseman*, February, 1910.

During the year 1909, the number of horses in the United States increased 400,000, and for the same period the value of the total horse stock of the nation increased \$302,311,000, or \$12.55 per head. These figures, government figures, clearly prove that the horses are increasing in number in the United States. This increase is relatively less than the increase in demand due to the increase in population, and the increase in actual uses for horses. Under these conditions there can be nothing but encouragement for horse breeders and raisers.

The present satisfactory condition of the horse industry would lead us to believe that there is no good reason for the horse being so frightened of a bicycle or an automobile as he usually pretends to be when he sees one.

During the year the undersigned has assisted in the organization of the Canadian-French Coach Horse Breeders' Association, and I understand it is the intention of the breeders of Suffolk Punch horses to get together in an association to look after their interests.

In closing I wish to express appreciation for the assistance given by the Alberta and Dominion Departments of Agriculture, the press, the directors and donors, during the past year, and trust that the management may have continued energetic support in the future.

Respectfully submitted,

E. L. RICHARDSON,

Secretary and Managing Director.

APPENDIX B.

ALBERTA CATTLE BREEDERS' ASSOCIATION.

TENTH ANNUAL REPORT.

HON. DUNCAN MARSHALL,

Minister of Agriculture.

SIR,—I have the honour to submit herewith the tenth annual report of the proceedings of the Alberta Cattle Breeders' Association for the year 1909.

The annual meeting was held in the Drill Hall in the City of Calgary, on April 4th, 1910, the following being the minutes of the meeting:

MINUTES OF ANNUAL MEETING.

The President, Mr. J. L. Walters, in the chair.

The minutes of the last meeting were adopted as read.

The secretary then read the annual report and the financial statement for the year 1909.

Moved by Mr. Turner, seconded by Mr. Bryce Wright,—

That the annual report be adopted as read. Carried.

Moved by Mr. Bryce Wright, seconded by Mr. S. M. Race,—

That the financial statement be adopted as read.—Carried.

The president then called upon the Hon. Duncan Marshall, Minister of Agriculture for Alberta, to address the meeting. Mr. Marshall expressed pleasure in being present at the meeting, and complimented the Association on the good work it is doing for the cattle interests of the province. He referred in particular to the question of bulls running at large in Alberta, and stated that the Association would have the active co-operation of his Department in framing regulations and seeing that they were enforced, so that the scrub bull nuisance as well as the trouble experienced with purebred bulls at large, would not be such a menace to the cattle breeders of the province.

Mr. P. M. Bredt, president of the Saskatchewan Cattle Breeders' Association, was then asked to address the meeting. Mr. Bredt has been attending the annual show and sale for a number of years, and stated that each year he has found considerable improvement, and congratulated the association on the success of its undertakings.

Moved by Mr. Jas. Wilson, seconded by Mr. Jas. Sharp,—

That the Department be asked to make it the duty of brand readers in Alberta to have any bulls running at large contrary to the law impounded.—Carried.

Discussion followed as to the inconvenience caused by the inspection of purebred animals, both for brands and health, when being shipped locally within the province.

Moved by Mr. Turner, seconded by Mr. O. Palmer.—

That the Department of Agriculture be asked to alter the regulations respecting the brand inspection of stock, so that purebred and exhibition live stock being moved by rail within the province of Alberta, should not require to be inspected for brands, and also that the Honourable Minister of Agriculture for Alberta be asked to take up with the Dominion Live Stock Commissioner the question of permitting purebred and exhibition live stock to be shipped to points within Alberta without requiring health inspection certificates.—Carried.

Election of Officers.

The election of officers was then proceeded with, and resulted as follows:

Hon. President	John A. Turner, Calgary.
President	J. L. Walters, Clive.
1st Vice-President	Wm. Sharpe, Lacombe.
2nd Vice-President	John Ramsay, Priddis.
Secretary-Treasurer and Managing Director.	E. L. Richardson, Calgary.

Moved by Mr. S. M. Mace, seconded by Mr. Jas. Sharp,—

That the balance of the officers of last year be re-elected as follows.
(Carried unanimously).

Breed Directors.

Shorthorns	Bryce Wright, De Winton.
Herefords	J. T. Parker, Lacombe.
Aberdeen Angus	L. Hutchinson, Duhamel.
Galloways	E. D. Adams, Calgary.
Holsteins	W. J. Tregillus, Calgary.
Ayrshires	A. H. Trimble, Red Deer.
Jerseys	C. A. J. Sharman, Red Deer.

General Directors.

S. M. Mace, Pekisko.	O. Palmer, Lacombe.
R. K. Bennett, Midnapore.	W. P. Williams, Fort Saskatchewan.
Hy. Talbot, Lacombe.	



A 10000 WISCONSIN ADDRESS AVENUE

Honorary Directors.

W. F. Stevens, Live Stock Commissioner, Edmonton.
C. W. Peterson, Calgary.

Ex-Officio Directors.

Dr. J. G. Rutherford, Live Stock Commissioner, Ottawa.
Hon. Duncan Marshall, Minister of Agriculture, Edmonton.

The meeting then adjourned.

ANNUAL REPORT OF THE SECRETARY.

GENTLEMEN,—I have pleasure in presenting herewith the tenth annual report of the Alberta Cattle Breeders' Association, being for the year 1909.

NINTH ANNUAL AUCTION SALE AT CALGARY.

The ninth annual auction sale of bulls was held at Victoria Park, Calgary, on the 7th day of April. The sale was one of the most successful ever held by the Association. Fifty-nine animals were sold for \$6,325, being an average price of \$107.37. Only once in the history of the association has this price been exceeded. This was in 1906, when 170 animals were sold at an average price of \$108.37, exactly \$1 per head more than the average of 1909. The 59 animals were made up of the following breeds:

41 Shorthorns, which averaged	\$108 17 per head
13 Herefords, which averaged	101 15 per head
1 Galloway, sold for	50 00
4 Aberdeen Angus, averaging	121 25 per head

One noticeable feature in connection with this year's sale was the fact that the animals were uniformly of much better quality, and in better condition than the animals had been at a number of previous sales. The fact that the animals were of better quality, coupled with the more prosperous condition of the country than at the time of the two previous sales, was no doubt responsible for the splendid results obtained at this sale, and there is every reason to believe that the forthcoming sale, if the entries are not too numerous, should be as satisfactory.

FIFTH ANNUAL AUCTION SALE AT LACOMBE.

During the past two or three years a number of the members of the Association have been under the impression that it was time that the association branched out and held a sale in some other part of the province. As the province developed there has been more justification for this view. A few years ago a large percentage of the sales made were shipped east, south and west, and a very small percentage shipped north. As the settlement of Alberta increased, the ranches of the southern part of the province became wheat farms, and the part of the province north of Calgary became more thickly settled with stockmen and mixed farmers, the number of animals shipped north after each sale gradually increased. As a result of this development your directors decided to hold a sale at Lacombe at which point, if successful, an annual sale could be held. Sixty-two animals were entered, of which fifty-eight were sold for \$4,785.

an average price of \$82.50. The sale was very satisfactory indeed, and the animals averaged within \$3 of as high a price as at the first sale held in Calgary in 1901. The 58 animals sold were composed of the following breeds:

31 Shorthorns, average price	\$91.61
12 Herefords, average price.	70 00
11 Aberdeen Angus, average price.	79 55
3 Holsteins, average price	76 66

The general average quality of the animals offered at the Lacombe sale was not as high as those sent to the Calgary sale, which was no doubt responsible to a considerable extent for the average price being \$24.87 per head lower.

Considering the two sales, I think that the average price obtained was considerably better than would have been the case had all the animals been offered at one sale, and no doubt a number of the buyers and sellers were put to less expense by being able to dispose of or purchase animals at Lacombe.

As a result of the success of the sale at Lacombe, it would undoubtedly be a mistake to discontinue it, as the sale at that point should improve as it becomes established. The association will no doubt best serve the interests of its members, as well as the cattle interests of Alberta, in holding sales wherever they could be expected to be a success. Due care, however, must be taken to make sure that a sale could be successfully held at another point before such a step should be taken, as the additional expense of advertising and printing and the general expenses in connection with the sale increase the expenses of the association very considerably, and the transportation expenses are very heavy where the province has to be covered two or three times a year both in collecting and delivering animals. It would scarcely seem reasonable to prohibit a contributor in any part of the province from selecting according to his own wishes the sale at which to dispose of his animals, and yet you can readily see the increased shipping expenses which a duplicity of sales would entail. A statement of the average prices obtained and the names of the contributors, as well as a list of the prize winners at the purebred cattle show, will be found below.

I particularly wish to refer to the services of auctioneer S. W. Paisley, who has officiated at every association sale since its inauguration. His services have been most acceptable, and he has been far more than reasonable in his charges, on some occasions practically making no charge at all, and at the Lacombe sale held last year, owing to the lack of funds, Mr. Paisley very kindly gave his services free.

The following is a list of prize winners at the Purebred Cattle Show:

SHORTHORN BULLS.

Three years and over.

1st	Buckingham Chancellor, 5525.	P. Talbot & Son, Lacombe.
2nd	Hans Choice, 61168.	Geo. Duncan, Innisfail.
3rd	Model Duke, 57358.	H. W. Watkin, Olds.

Two years and under thirty months.

1st	Habitant, 73773.	James Sharp, Lacombe.
2nd	Roan Victor, 73469.	David Sinclair, Innisfail.
3rd	Crimson Standard, 73724.	A. F. McGill, Lacombe.
4th	Tom, 74339.	John Robinson, Innisfail.

Thirty months and under three years.

1st	Baron Ury, 68620	Bryce Wright, De Winton.
2nd	Ethel's Chief, 68901	James Wilson, Innisfail.
3rd	Choice Goods, 67868	John Ramsey, Priddis.

Eighteen months and under two years.

1st	Historian, 73772	Wm. Sharp, Lacombe.
2nd	Henchman, 73770	Wm. Sharp, Lacombe.
3rd	Haunter, 73780	James Sharp, Lacombe.
4th	Harbinger, 73774	James Sharp, Lacombe.
5th	Bonnie Favorite, 73902	James Wilson, Innisfail.

CHAMPIONSHIPS.

Best Shorthorn bred in Alberta (any age).

Baron Ury, 68620	Bryce Wright, De Winton.
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HEREFORD BULLS.

Three years and over.

1st	Dewey, 7887	P. F. Huntley, Lacombe.
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Two years and under thirty months.

1st	Hawthorne, 6407	S. M. Mace, Pekisko.
2nd	Sir Bredwell, 26th, 7260	P. M. Ballantyne, Lacombe.
3rd	Gallant Hesiod, 20th, 7808	O. Palmer, Lacombe.

Thirty months and under three years.

1st	Gallant Hesiod, 16th, 7125	D. Palmer, Lacombe.
2nd	Sir Bredwell, 14th, 7253	P. M. Ballantyne, Lacombe.
3rd	Monarch, 6247	James Tough, Edmonton.

Eighteen months and under two years.

1st	Hipolyte, 7480	S. M. Mace, Pekisko.
2nd	Count of Melrose, 7679	P. M. Ballantyne, Lacombe.
3rd	Hamlin, 7481	S. M. Mace, Pekisko.
4th	Roger, 7888	P. F. Huntley, Lacombe.
5th	Gallant Hesiod, 23rd, 7810	O. Palmer, Lacombe.

Yearlings and under eighteen months.

1st	Horsa, 7482	S. M. Mace, Pekisko.
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CHAMPIONSHIPS.

Best Hereford Bull, any age, bred in Alberta.

Dewey, 7887	P. F. Huntley, Lacombe.
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ABERDEEN ANGUS.

Three years and over.

1st	North View Emperor, 2011	Geo. G. Melson, Olds.
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Two years and under.

1st	Sunny Jim	Lew Hutchinson, Duhamel.
2nd	Wildwood June Blossom, 2nd, 2999	Geo. G. Melson, Olds.
3rd	Wildwood June Blossom, 2998	Geo. G. Melson, Olds.

CHAMPIONSHIP.

Best Aberdeen Angus Bull, any age, bred in Alberta.

Sunny Jim	Lew Hutchinson, Duhamel.
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Best Aberdeen Angus Bull, any age.

Sunny Jim	Lew Hutchinson, Duhamel.
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SUMMARY OF SALES FOR NINE YEARS.

Year	Total Number	Average Price	Total Receipts	SHORTHORNS				HEREFORDS				GALLOWAYS				AYRSHIRES				ABERDEEN ANGUS				HOLSTEIN FRIESIAN	
				BULLS		COWS		BULLS		COWS		BULLS		COWS		BULLS		COWS		BULLS		COWS		BULLS	
				No.	Ave.	No.	Ave.	No.	Ave.	No.	Ave.	No.	Ave.	No.	Ave.	No.	Ave.	No.	Ave.	No.	Ave.	No.	Ave.	No.	Ave.
1901	64	85.17	5,451.00	144	\$90.57	19	\$73.73	14	\$91.42	14	\$76.25	1	.....	.....	.....	3	\$51.30	.....	.....	1	\$45.00	.....	.....	.....	.....
1902	226	95.80	21,077.00	183	99.91	8	76.25	19	135.00	.....	.....	.....	.....	.....	.....	2	72.50	.....	.....	2	72.50	10	\$68.50	.....	.....
1903	268	96.60	25,890.00	173	93.65	65	96.63	19	135.00	.....	.....	.....	.....	.....	.....	9	83.33	.....	.....	9	83.33	.....	.....	.....	.....
1904	293	96.79	29,245.00	131	104.23	49	85.22	76	127.17	14	\$91.42	7	\$75.00	10	\$58.90	.....	15.00	.....	.....	5	107.00	1	60.00	.....	.....
1905	340	89.28	23,557.00	173	67.84	55	63.45	93	76.21	8	65.00	5	64.00	.....	.....	.....	.....	.....	.....	4	62.50	.....	.....	.....	.....
1906	170	108.37	18,426.50	95	106.12	23	72.17	37	138.91	7	78.57	2	165.00	.....	.....	.....	.....	.....	.....	6	139.16	.....	.....	.....	.....
1907	192	75.72	14,538.50	132	74.64	.....	.....	50	79.54	.....	.....	1	55.00	.....	.....	.....	.....	.....	.....	9	72.67	.....	.....	.....	.....
1908	111	63.91	7,095.00	67	64.28	.....	.....	37	64.80	.....	.....	1	50.00	.....	.....	.....	.....	.....	.....	6	56.66	.....	.....	.....	.....
1909	59	107.37	6,325.00	41	*108.17	.....	.....	13	101.15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	121.25	.....	.....	.....	.....
1909	58	82.50	4,785.00	31	*191.61	.....	.....	12	70.00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3	\$76.66	.....

HIGHEST PRICES REALIZED.

1901.—\$250. Shorthorn Bull, sold by P. Talbot & Son, Lacombe.
1902.—\$290. Shorthorn Bull, sold by John Ramsay, Priddis.
1903.—\$255. Hereford Bull, sold by O. Palmer, Lacombe.
1904.—\$285. Shorthorn Bull, sold by Hon. W. Beresford, Calgary.
1905.—\$225. Shorthorn Bull, sold by D. Sinclair, Innisfail.
1906.—\$365. Shorthorn Bull, sold by A. F. McGill, Lacombe.
1907.—\$170. Shorthorn Bull, sold by James Sharp, Lacombe.
1908.—\$400. Shorthorn Bull, sold by John A. Turner, Calgary.
1909.—\$180. Shorthorn Bull, sold by Wm. Sharp, Lacombe.
Calgary.—\$180. Shorthorn Bull, sold by Bryce Wright, De Winton.
Lacombe.—\$150. Shorthorn Bull, sold by Thos. Talbot, Lacombe.
Lacombe.—\$150. Aberdeen Angus, sold by R. E. Johnston, Lacombe.
\$150. Aberdeen Angus, sold by J. H. Fay, Blackfalds.

PROVINCIAL FAT STOCK SHOW.

The fat stock show held in conjunction with the cattle sale is gradually becoming more firmly established, and entries will no doubt increase rapidly as the winter feeding of cattle becomes more general. The number of entries in the cattle classes at the last show was 110, including five entries of carload lots, as against 142 entries in 1908. Although the entries were more numerous in 1908 than in 1909, more animals were in the show owing to the number included in the carload classes.

The competition in the dressed carcass classes was the keenest in the history of the show, particularly in the steer classes. The slaughtering of the animals was done by Messrs. P. Burns & Co., and this firm purchased the carcasses at the following prices:

Dressed Steer Competition.

1st prize carcass	12 cts. per lb.
2nd prize carcass	11 cts. per lb.
3rd prize carcass	10 cts. per lb.
Balance of dressed steers entered for competition	8½ cts. per lb.

Dressed Cow or Heifer.

1st prize carcass	11 cts. per lb.
2nd prize carcass	10 cts. per lb.
3rd prize carcass	9 cts. per lb.
Balance of cows or heifers entered for competition	7 cts. per lb.

Below is a list of the prize winners at the fat stock show in the competitions both on foot and dressed as well as the judging competitions:

CLASS I.—PUREBRED SHORTHORNS.

Steer, three years and under four, cow or heifer three years old or over.

1st	Henry Talbot	Lacombe.
2nd	John Ramsay	Priddis.
3rd	Thos. Talbot	Lacombe.
4th	John Ramsay	Priddis.
5th	John Ramsay	Priddis.

Steer or heifer, two years old and under three.

1st	Henry Talbot	Lacombe.
2nd	John Ramsay	Priddis.

Steer or heifer, under two years.

1st	John Ramsay	Priddis.
2nd	John Ramsay	Priddis.
3rd	James Sharp	Lacombe.
4th	A. F. McGill	Lacombe.

CLASS II.—PUREBRED HEREFORDS.

Steer or heifer, two years and under three.

1st	S. M. Mace	Pekisko.
2nd	P. M. Ballantyne	Lacombe.
3rd	P. M. Ballantyne	Lacombe.
4th	S. M. Mace	Pekisko.

Steer or heifer under two years.

1st	S. M. Mace	Pekisko.
2nd	P. M. Ballantyne	Lacombe.

CLASS III.—PUREBRED GALLOWAYS AND POLLED ANGUS.

Steer three years and under four, cow or heifer.

1st	Lew Hutchinson	Duhamel.
2nd	Geo. G. Melson	Olds.
3rd	W. E. Tees	Tees.

Steer or heifer, two years old and under three.

1st	E. D. Adams	Calgary.
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Steer or heifer under two years.

1st	E. D. Adams	Calgary.
2nd	W. E. Tees	Tees.
3rd	E. D. Adams	Calgary.

CLASS IV.—GRADE STEERS.

Steer three years old and under four.

1st	Geo. Duncan	Innisfail.
2nd	J. L. Walters	Tees.
3rd	W. E. Tees	Tees.
4th	Indian Industrial School	Davisburg.

Steer, two years old and under three.

1st	P. F. Huntley	Lacombe.
2nd	Henry Talbot	Lacombe.
3rd	Indian Industrial School	Davisburg.
4th	Lew Hutchinson	Duhamel.

Steer, one year old and under two.

1st	John Ramsay	Priddis.
2nd	Lew Hutchinson	Duhamel.
3rd	S. M. Mac	Pekisko.
4th	W. E. Tees	Tees.

CLASS V.—GRADE COWS AND HEIFERS.

Cow or heifer, three years old or over.

1st	Henry Talbot	Lacombe.
2nd	P. F. Huntley	Lacombe.
3rd	W. E. Tees	Tees.
4th	P. F. Huntley	Lacombe.

Heifer, two years old and under three.

1st	Henry Talbot	Lacombe.
2nd	W. E. Tees	Tees.

Heifer, one year old and under two.

1st	P. F. Huntley	Lacombe.
2nd	P. F. Huntley	Lacombe.
3rd	W. E. Tees	Tees.
4th	W. E. Tees	Tees.

CLASS VI.—CARLOAD OF FAT CATTLE.

(Dealers and butchers barred.)

1st	Indian Industrial School	Davisburg.
2nd	W. E. Tees	Tees.

Open to all.

1st	P. Burns & Co.....	Calgary.
2nd	Indian Industrial School.....	Davisburg.

CLASS VII.—CHAMPIONSHIP.

P. F. Huntley.....	Lacombe
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CLASS VIII.—DRESSED CARCASSES.

1st	P. F. Huntley.	Lacombe.
2nd	J. L. Walters.....	Tees.
3rd	Indian Industrial School.. . . .	Davisburg.
4th	Lew Hutchinson.....	Duhamel.

Purebred or grade, cow or heifer.

1st	John Ramsay...	Priddis.
2nd	Henry Talbot	Lacombe.
3rd	S. M. Mace....	Pekisko.
4th	Henry Talbot...	Lacombe.

Herdsmen's Competition.

1st	Geo. Duncan..	Innisfail.
2nd	P. F. Huntley.	Lacombe.
3rd	Henry Talbot..	Lacombe.

CLASS XXIII.—JUDGING COMPETITION.

Beef Cattle.

1st	R. J. Scott..	Lacombe.
2nd	P. M. Ballantyne.	Lacombe.

FINANCIAL STATEMENT.

The financial statement given below, which has been duly audited and found correct, shows an overdraft of \$216.87. The overdraft at the end of 1908 was \$142.61. The increase in the overdraft at the end of 1909 can be entirely charged to the increase in the expense of collecting, delivering and advertising sales at two points instead of one. It has been the experience in the past that the fees charged for freight have usually come within from \$1 to \$25 of the amount we were called upon to pay the railway. This year the loss on freight account was \$120, and the advertising expenses were, of course, increased on account of having to advertise two sales instead of one, and also print a second catalogue. The money used in these items is without a doubt well spent, but in order to carry on the work of the association without showing a loss, and to provide for additional expenses, such as increased advertising, and the expenses of collecting and delivering of animals, owing to the development of the province, it will be necessary that the annual assistance given by the Department of Agriculture be increased. Last year the Department gave a grant of \$950 to the work of the Cattle Breeders' Association, and the directors of the association after going carefully into the matter, have asked the Alberta Department of Agriculture to increase this grant to \$1,500, believing that the work accomplished by the association in the interests of the cattle industry amply justifies the Department in granting assistance to this extent.

DEPARTMENT OF AGRICULTURE

STATEMENT.

Receipts.

Membership fees	\$ 77.00
Alberta Provincial Government Grant	950.00
Donations	75.00
Entry fees	296.00
Transportation fees	712.50
Proceeds of sale	11,265.00
Advertising	68.50
Sundry	27.60
Commission on sale	231.20
	\$13,702.80

Disbursements.

Overdraft 1908	\$ 142.61
Freight	733.08
Prizes	261.21
Office and grounds	1,114.79
Printing and advertising	335.34
Proceeds of sale	11,265.00
Sundry and refunds	67.64
	\$13,919.67
	\$13,702.80

Overdraft \$ 216.87

Examined and found correct, February 8th, 1910.

(Sgd.) FRANCIS R. EXHAM,
Auditor.

FAT STOCK SHOW, DECEMBER 30TH, 1909.

Receipts.

Balance, 1908	\$ 394.41
Grant, Provincial Department of Agriculture	1,300.00
Grant, Dominion Department of Agriculture	216.66
Entry fees	203.25
Freight	106.00
Sundries	.30
	\$2,220.62

Disbursements.

Transportation fees refunded to Cattle Breeders Associations	\$ 106.00
Prizes	1,463.00
Office and grounds expense	504.03
Printing and advertising	134.48
Sundries	13.83
	\$2,221.34
	2,220.62

Overdraft72

THE CATTLE INDUSTRY.

In spite of the fear expressed during the past two or three years to the effect that the breaking up of ranges into smaller areas would be the death knell of the cattle trade in this province, actual facts seem to point quite in the opposite direction. Shipments on the

Calgary and Edmonton line for 1909 were 63 per cent. greater than the previous years. On the Wetaskiwin branch the increase was 163 per cent. On the Lacombe branch the increase was 42 per cent. It is estimated that 128,000 cattle were marketed in 1909 in Alberta, valued at \$5,800,000. It is estimated that 75,000 of these were shipped out of the province. The shipments of cattle for 1909 far surpassed any previous year's shipments, and while no doubt a considerable number of breeding stock was included in this year's sales as a result of the breaking up of some of the large ranges, on the other hand the very large increase in the production of cattle on the smaller farms will, it is hoped, make an increase possible in connection with next year's shipments. This increase will need to be exceedingly large in order to meet the demands on account of the increase in population in Western Canada, and the demand will no doubt be further stimulated by the decrease in the cattle stock of Manitoba during the past two years, which is estimated at over 100,000.

I desire to thank the officials of the Department of Agriculture for valuable assistance given in connection with the work of the association, also to thank the Alberta and Dominion Departments of Agriculture for supplying official judges and for the annual grant in aid of the association work, without which it would be impossible to continue the work the association is doing. I also wish to thank the press and the directors for their kind co-operation in forwarding the interests of the association.

Respectfully submitted.

E. L. RICHARDSON,
Secretary and Managing Director.

APPENDIX C.

ALBERTA SWINE BREEDERS' ASSOCIATION.

SEVENTH ANNUAL REPORT.

HON. DUNCAN MARSHALL,
Minister of Agriculture.

SIR,—I have the honour to submit herewith the seventh annual report of the work of the Alberta Swine Breeders' Association for the year 1909.

The annual meeting of the association was held in the offices of the association at Calgary, Monday evening, April 4th, 1910.

The president, W. J. Tregillus, was in the chair. The minutes of the last meeting were adopted as read. The secretary then read the annual report and presented the financial statement.

Moved by Mr. Bryce Wright, seconded by Mr. John A. Turner,—That the annual report be adopted as read.—Carried.

Moved by Mr. Turner, seconded by Mr. Lew Hutchinson,—That the financial statement be adopted as read.—Carried.

The secretary then read the attached article by Mr. N. H. Sorensen, giving his experience in the swine industry in Alberta. The meeting expressed pleasure at having such a carefully prepared

report from Mr. Sorensen, and suggested that it would be valuable information to incorporate in the annual report.

The election of officers resulted as follows:

President	Lew Hutchinson, Duhamel.
1st Vice-President	W. J. Tregillus, Calgary.
2nd Vice-President	W. Cook, Cochrane.
Secretary-Treasurer and Managing Director.	E. L. Richardson, Calgary.

Breed Directors.

Yorkshires	N. H. Sorensen.	Markerville.
Duroc Jerseys	Oscar Miller.	Cheadle.
Berkshires.	T. E. Bowman.	High River.
Tamworths	J. Rye.	Duagh.
Poland Chinas	H. Ouim	Edensville.

General Directors.

K. G. Dalglish.	Cochrane.
Prof. W. J. Elliot.	Strathmore.
W. E. Tees.	Tees.
H. H. Jenkins	Pincher Creek.

Honorary Directors.

C. W. Peterson, Calgary.
W. F. Stevens, Live Stock Commissioner, Edmonton.

Ex-Officio Directors.

Dr. J. G. Rutherford, Live Stock Commissioner, Ottawa.
Hon. Duncan Marshall, Minister of Agriculture, Edmonton.

Auditor.

F. R. Exham, Calgary.

The meeting then adjourned.

ANNUAL REPORT OF THE SECRETARY.

GENTLEMEN,—I have pleasure in submitting herewith the seventh annual report of the transactions of the Alberta Swine Breeders' Association being for the year 1909.

ALBERTA PROVINCIAL FAT STOCK SHOW.

The fat stock show held in conjunction with the other Alberta live stock association events, April 5th to 8th, 1909, was particularly satisfactory from the standpoint of entries and the quality of the swine department. The number of entries during the past three years is as follows:

1907.	17 entries.
1908.	19 entries.
1909.	57 entries and 2 carload lots.

No doubt the splendid increase shown can be partly attributed to the decision of the Swine Breeders' Association in conjunction with the Sheep Breeders' Association to pay freight on all swine exhibits to the fat stock show from any part of Alberta, and it is hoped that the continuation of this freight arrangement will increase the entries in connection with the forthcoming show. The competition was keen in a number of classes of the show, and particularly in the

dressed carcass competitions. Arrangements were made with Messrs. P. Burns & Co. for the killing of the animals in the dressed carcass competition, and the animals slaughtered were sold to the same firm at the following prices:

First prize carcass....	10c. per lb.
Second prize carcass	9c. per lb.
Balance of carcasses entered for competition	8c. per lb.

Following is a list of the prize winners in the swine classes at the Fat Stock Show.

CLASS XVII.—SWINE.

*Yorkshires.**Barrow or sow, six months and under twelve.*

1st	H. W. Watkin.. . . .	Olds.
2nd	H. W. Watkin	Olds.
3rd	H. W. Watkin.. . . .	Olds.

Barrow or sow under six months.

1st	P. M. Ballantyne... . .	Lacombe.
2nd	P. M. Ballantyne.....	Lacombe.

CLASS XVIII.—GRADES, MEDIUM THICK.

Barrow or sow six months and under twelve.

1st	W. E. Tees.....	Tees.
2nd	H. W. Watkin	Olds.

Barrow or sow under six months.

1st	W. E. Tees.. . . .	Tees.
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CLASS XIX.—GRADES (BACON TYPE).

Barrow or sow, six months and under twelve.

1st	H. W. Watkin	Olds.
2nd	W. E. Tees.	Tees.
3rd	H. W. Watkin	Olds.

Barrow or sow under six months.

1st	P. M. Ballantyne.	Lacombe.
2nd	H. W. Watkin	Olds.
3rd	P. M. Ballantyne.....	Lacombe.

CLASS XX.—CARLOAD LOTS.

Carload of not less than twenty head, purebred or grade, any age.

1st	W. E. Tees	Tees.
2nd	H. W. Watkin	Olds.

CLASS XXI.—GRAND CHAMPION.

Best Bacon Hog, any age, purebred or grade.

H. W. Watkin.. . . .	Olds.
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CLASS XXII.—DRESSED CARCASSES.

Purebred or grade, medium thick.

1st	W. E. Tees.. . . .	Tees.
2nd	W. E. Tees.. . . .	Tees.
3rd	W. E. Tees... . .	Tees.

Purebred or grade, bacon type.

1st	H. W. Watkin	.....	Olds.
2nd	H. W. Watkin	.....	Olds.
3rd	H. W. Watkin	.....	Olds.
4th	H. W. Watkin	.....	Olds.

BREEDERS' DIRECTORY.

The value placed on the first edition of the breeders' directory published in 1908 is shown by the numerous applications received at the office for same, and justified the publication of a second edition. The first edition contained the names of 102 breeders, and owing to the increased interest in sending returns, the second directory contains 225 names. It is consequently far more complete and will be of greater value. The object of publishing such a directory is to give breeders a list of people to whom they might write to purchase purebred stock, or to get a change of blood. A list of breeders of grade stock is also published, so that breeders of purebred stock who may wish to make sales will have a fairly complete list of names to write to.

Published with the directory is a diagram showing the location of points of the hog for the information more particularly of beginners in the swine industry. Information for the cut has been kindly supplied by the Dominion Live Stock Commissioner's Department. An article is also published with the directory written by Mr. W. F. Stevens, Live Stock Commissioner for Alberta, giving timely hints to swine breeders. Last year 1,500 copies of the directory were published, which supply is entirely exhausted, and this year 3,000 copies have been issued in conjunction with the prize list of the live stock association events for 1910.

The association wishes to express its appreciation of the financial and other assistance given by the Alberta and Dominion Departments of Agriculture to the association and the fat stock show.

FINANCIAL STATEMENT.

The financial statement submitted herewith shows that the association has a balance on hand of \$351.52.

FINANCIAL STATEMENT.

Receipts.

Balance 1908	\$	242 60
Membership fees		78.00
Grant from Alberta Department of Agriculture .. .		200.00
Registration fees from Dominion Swine Breeders' As'n ..		10.02
		\$530 62

Disbursements.

Freight refunded to Cattle Breeders Association ..	\$	27.50
Medals		5 70
Office and grounds expense		144.90
Refund membership		1.00
Balance on hand		351 52
		\$530.62

February 8th, 1910.

Examined and found correct,

(Sgd.) FRANCIS R. EXHAM,
Auditor.

The number of hogs in the province shows a considerable increase each year. Mr. McMullen, General Live Stock Agent for the Canadian Pacific Railway, places the shipment of hogs during 1909 at 60,769, and the value at \$607,690. Another authority places the number of hogs marketed in 1909 at 80,000 at an average price of from 6 to 9 cents per pound. Mr. McMullen places the percentage increase of the shipment of hogs along the Calgary and Edmonton line during the past year at 15 per cent., the increase on the Wetaskiwin branch at 139 per cent., and the increase on the Lacombe branch at 43 per cent. While the supply has not nearly reached the demand, it is satisfactory to note this material increase in the output.

I have been endeavouring to secure information as to the cost of producing hogs, and the profits which can be derived from this industry in Alberta. With the co-operation of Mr. C. P. Marker, Dairy Commissioner, I have been successful in obtaining a complete statement of the methods adopted, the expense of production and the prices realized in connection with Mr. N. H. Sorensen's farm at Markerville, Alta. Mr. Sorensen was a director of the first co-operative pork packing plant in Denmark. That he thoroughly understands the handling and care of hogs is shown very clearly by the following article. Mr. Sorensen has been in Alberta about two years, and the statement which was written in Danish, Mr. Sorensen's own language, has been translated by Mr. Marker. It covers the operations of Mr. Sorensen for the year 1909, and is undoubtedly the most interesting data which has been supplied in connection with the hog business in Alberta up to the present time. Mr. Sorensen started in with very limited capital, and there is no reason why other breeders in Alberta who will give the swine industry as careful and intelligent attention as he has, should not be as successful.

ONE YEAR OF HOG RAISING IN ALBERTA.

By N. H. Sorensen, Markerville, Alberta.

I use in my hog business 8 acres of land bordering upon the Medicine River. The slope towards the river is covered with brush and the rest of the land is partly in native grass and partly seeded down with mixed grain for pasturage, which is a great help to keep the pigs in good growing condition.

The principal building provides pens for some 50 hogs, and in one end of it I have a feed-room with tanks for storing water and butter milk. The feed-room is surrounded on three sides by feeding yards fenced in and they are arranged so that hogs of nearly the same size are fed together.

Outside of the regular feed-yards I have other buildings used principally for brood sows whenever I find it advisable to separate them from the rest; while these as well as straw stacks are available for farrowing quarters the sows seem to prefer farrowing in the bushes in the summer.

My bunch of hogs is of the Yorkshire breed, bred from registered stock and consisted in February, 1909, of one boar, 13 sows and 27 younger hogs for fattening. During the year the brood sows had 17 litters, totalling 138 pigs of splendid vitality, farrowed as follows: 8 litters in March, 5 in May, and 4 in August. I bought 65 half grown hogs for fattening between September 11th and November 15th, 1909.

In February last I had 35 pregnant sows and 2 boars, having sold altogether 207 head during the year.

During pregnancy the sows are fed oats, otherwise barley is the staple grain ration. In my experience the young pigs show less vitality when their dams have been fed largely on barley.

Separate feeding yards are provided for the small pigs where they can always find barley, whole or ground, and fresh butter milk. It is very important to have the small pigs feeding well when they are weaned and they should be fed liberally so as to keep a clean skin and a good appearance, without being fat.

I start fattening the pigs when they are 3 to 4 months old and give them all the barley chop they will eat and any butter milk which is not needed for the small pigs. I feed regularly three times every day but only what they will eat up clean.

The best size of the pen is 12 feet by 10 feet with a 12 foot trough and it gives room for 10 hogs; larger pens and several hogs in each gives too much disturbance.

The pens are cleaned out daily and some bedding is placed in one corner of each. Hogs do not thrive well unless they are kept absolutely clean, and the skin free from scurf.

In order to secure the best results we must keep the hogs comfortable and treat them kindly. A hog so handled should gain on an average 1½ lbs. per day from the day it is farrowed until it is 5 months old. Beyond that age every pound of gain in weight costs more than under that age.

My hogs have been in splendid health and I have not lost a single pig from disease. This I attribute to the open air, exercise and excellent shelter afforded by the bushland surrounding my hog yard which also provides shade in summer for the young pigs.

Feed and Labour.

Of feed stuffs I used the equivalent of 2,800 bushels of barley or 134,400 pounds according to the formula 6 pounds buttermilk equals 1 pound oats equals 1 pound barley. From this I have produced 29,480 pounds of hogs using 4 56 pounds of barley per pound gain in the weight and thus realizing 71.3 cents per bushel after the principal items of expenditure, such as interest and depreciation, are deducted.

As to the value of the labour involved, this becomes a matter of individual calculation on farms where hogs are kept in conjunction with other stock but it seems to me that in my situation it is easier to feed the barley to the pigs than haul it 14 miles to railway station.

The year's business is summed up in the following statement, viz.

Expenditure.

Bought 106 hogs weighing 9,450 pounds	\$ 554 00
Bought barley, oats and buttermilk equivalent to 134,400 pounds barley	832.00
Sundry expenses, (rent, interest, etc.)	165.00
Total expenditure	<u>\$1,551.00</u>

Receipts.

May 1909. . . 27 hogs, 4,515 lbs. at 6c.	\$ 270 90
July 1909 . . . 9 hogs, 1,600 lbs. at 6.5	104 00
Aug. 1909 . . . 14 hogs, 3,120 lbs. at 6.5	201.50
Sept. 1909. . . 39 hogs, 5,940 lbs. at 7c	410 00
Sept. 1909. . . 11 hogs, 1,800 lbs. at 7.5	135 00
Oct. 1909. . . 9 hogs, 1,440 lbs. at 7.5	108 00
Oct. 1909. . . 10 hogs, 1,390 lbs. at 7 . . .	97.30
Oct. 1909. . . 14 hogs, 2,730 lbs. at 6.5	177 45
Dec. 1909 . . . 19 hogs, 3,240 lbs. at 7.5	243 00
Jan. 1910.. . . 9 hogs, 1,515 lbs. at 7.5	113 62
Jan. 1910.. . . 19 hogs, 3,440 lbs. at 8c	275 20
Sundry Sales.. 27 hogs, 800 lbs. at 10.1	81 00
On hand 1st February, 1910, 37 hogs, 7,400 lbs. at 8c	665 00
Total receipts	<u>\$2,881 97</u>
Less total expenditure.....	1,551 00
Surplus.	<u>\$1,330 97</u>

GENERAL OBSERVATIONS.

When the farmers of Alberta take up in earnest the production of bacon hogs, then the market will materialize. Here the single individual can but look forward to the time when the Government, the legislature and the farmers' organizations will establish connection with the world's market so that the product can be disposed of on a competitive market and at the highest possible prices.

Alberta is pre-eminently suited for a large bacon production and a brief reference to one of the countries having a large export of that commodity may be of interest:

Denmark has a population of about 2,500,000, of which nearly 50 per cent. are engaged in agriculture. There are in that country 50 bacon curing plants, of which 33 are co-operative, owned and controlled absolutely by the farmers themselves.

The largest plant handles about 100,000 bacon hogs annually.

Aside from the pork products consumed in the country its export of bacon reaches annually upwards of \$22,000,000.

The farmers have for a number of years realized 8 to 9 cents per pound live weight for their hogs and for the present year will in all probability reach an average of 10 cents per pound.

If the Alberta farmers are to reach such a result then they must feed in winter and provide good warm pens for the pigs.

As it will be impracticable for every farmer to furnish such facilities, at least for the present, it will be much cheaper and better to establish co-operative fattening stations close to railway points and here the farmers can dispose of their young pigs any time they wish.

Under such an arrangement there need be no fear of shortage of feed and for that reason the volume of production will be much greater.

The central fattening stations can market the hogs in more uniform sizes, regulate the deliveries, sell by the carload and thereby obtain the maximum prices.

Respectfully submitted,

E. L. RICHARDSON,

Secretary and Managing Director.

APPENDIX D.

ALBERTA SHEEP BREEDERS' ASSOCIATION.

EIGHTH ANNUAL REPORT.

HON. DUNCAN MARSHALL,
Minister of Agriculture.

SIR,—I have the honour to present herewith the eighth annual report of the work of the Alberta Sheep Breeders' Association for the year 1909.

The annual meeting of the Alberta Sheep Breeders' Association was held in the offices of the Association, Calgary, Monday evening, April 4th, 1910.

The president, Mr. Bryce Wright, in the chair. The minutes of the last meeting were adopted as read. The secretary then read the annual report and presented the financial statement.

Moved by Mr. John A. Turner, seconded by Mr. C. W. Peterson,—That the secretary's report be adopted as read.—Carried.

Moved by Mr. O. E. Brown, seconded by Mr. C. W. Peterson,—That the financial report be adopted as read.—Carried.

The election of officers resulted as follows:

President	Bryce Wright, De Winton.
1st Vice-President	O. E. Brown, Calgary.
2nd Vice-President	Prof. W. J. Elliott, Strathmore.
Secretary-Treasurer and Managing Director	E. L. Richardson, Calgary.

Breed Directors.

Shropshires.....John A. Turner, Calgary.
 Leicesters.....W. T. Shuttleworth, Gaetz Valley.
 Merinos.....Hy. Holmes, Magrath.

General Directors.

Norman Jacques.....Ingleton.
 C. W. Peterson.....Calgary.
 Alex. Shaw.....Medicine Hat.
 A. Hunter.....Priddis.
 James McCaig.....Lethbridge.

Honorary Director.

W. F. Stevens, Live Stock Commissioner, Edmonton.

Ex-Officio Directors.

Dr. J. G. Rutherford, Live Stock Commissioner, Ottawa.
 Hon. Duncan Marshall, Minister of Agriculture, Edmonton.

Auditor.

F. R. Exham.....Calgary.

Discussion followed regarding the tariff on wool.
 Moved by Mr. J. A. Turner, seconded by Mr. O. E. Brown,—
 That Mr. C. W. Peterson be asked to prepare a resolution to
 be forwarded to the tariff commission regarding duty against foreign
 wool.—Carried.

The meeting then adjourned.

ANNUAL REPORT OF THE SECRETARY.

GENTLEMEN,—I beg to submit herewith the eighth annual report
 of the Alberta Sheep Breeders' Association for the year 1909.

ALBERTA PROVINCIAL FAT STOCK SHOW.

The annual fat stock show held in conjunction with the other
 Alberta live stock association events at Calgary, April 5th to 8th,
 1909, was the most successful ever held under the auspices of the
 association. The largest increase in entries was shown in the sheep
 classes, the number of entries during the past three years being as
 follows:

1907.....	12 entries
1908.....	19 entries.
1909.....	52 entries and one carload lot.

This is a most satisfactory showing, and was no doubt due
 in part to the decision of the association to make it known in all
 parts of the province that the freight on all exhibits for the fat stock
 show would be paid. The rule to the effect that the Sheep Breeders'
 Association would pay all freight on sheep exhibits has been continued
 in connection with the prize list of the forthcoming fat stock show,
 and it is hoped that the entries in the sheep classes will continue
 to increase.

Competition was keen in a number of the sheep classes, and
 particularly in the dressed carcass competition. Arrangements
 were made with Messrs. P. Burns & Co. to slaughter the animals

entered in the dressed carcass competition, and this firm also purchased the animals entered in the competition at the following prices:

First prize carcass.	18c lb.
Second prize carcass.	16c. lb.
Balance of carcasses entered for competition.	13c. lb.

The following is a list of the prize winners in the sheep classes at the fat stock show:

CLASS XI.—MEDIUM WOOLS, PUREBRED.

Ewe or wether, shearling or over.

1st	H. W. Watkin.	Olds.
2nd	H. W. Watkin.	Olds.
3rd	H. W. Watkin.	Olds.

Ewe or wether, lamb.

1st	Dick Brown.	Calgary.
2nd	Dick Brown.	Calgary.
3rd	Dick Brown.	Calgary.

CLASS XII.—GRADES OR CROSSES.

Ewe or wether, shearling or over.

1st	H. W. Watkin.	Olds.
2nd	H. W. Watkin.	Olds.
3rd	H. W. Watkin.	Olds.

Ewe or wether, lamb.

1st	H. W. Watkin	Olds.
2nd	H. W. Watkin	Olds.
3rd	H. W. Watkin	Olds.

Carload of not less than twenty head, purebred or grade, any age.

1st	H. W. Watkin	Olds.
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CLASS XIII.—CHAMPIONSHIP.

H. W. Watkin	Olds.
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CLASS XIV.—DRESSED CARCASSES (PUREBRED OR GRADE).

1st	H. W. Watkin	Olds.
2nd	H. W. Watkin	Olds.
3rd	H. W. Watkin.	Olds.

CLASS XXIII.—JUDGING COMPETITION.

1st	P. M. Ballantyne.	Lacombe.
2nd	R. J. Scott.	Lacombe.

BREEDERS' DIRECTORY.

The first edition of the Breeders' Directory published in 1908 by the Sheep Breeders' Association, together with papers by Mr. James McCaig of Edmonotn, a director of the association, and Mr. Bryce Wright of De Winton, president of the association, seemed to be appreciated by the breeders generally. 1,500 copies were published, and applications for the same continued to come in until the supply was exhausted.

It was considered advisable to issue a second edition of the directory, and cuts showing a diagram of the location of points of the sheep both alive and in the carcass, have been obtained through the courtesy of the Live Stock Commissioner's Branch at Ottawa, and have been inserted in the directory, with the hope that this information would be useful, particularly to beginners in the sheep industry. The second directory includes a list of 259 breeders, whereas the directory issued a year ago only contained the names of 52 sheep men. Considerably more interest has been shown in sending in information for the publication, and as a result it is much more complete and will consequently be more useful. The object of the pamphlet is to give those desiring to purchase animals a list of breeders of the different breeds of sheep, and the list of breeders of grade sheep has been included with the object of supplying a list of names for breeders of purebred stock who might wish to make sales. The directory has been issued in connection with the prize list of the live stock associations events for 1910, and 3,000 copies have been issued, being just double the number of the first edition.

The directory has been sent to wool buyers throughout the Dominion, with the hope that some buyers having the names of Alberta sheep men before them, and who have not in the past been buying wool in Alberta, may be induced to enter the field, and provide additional competition in the purchase of wool.

The association wishes to express its appreciation of the financial and other assistance given by the Alberta and Dominion Departments of Agriculture both to the association and in connection with the fat stock show.

The financial statement which will be presented to you at this meeting, shows that the association has a balance on hand of \$395.94.

FINANCIAL STATEMENT.

Receipts.

Balance 1908	\$ 208.60
Memberships	16.00
Grant from Alberta Department of Agriculture. . .	400.00
	\$624.60

Disbursements.

Freight refunded to Cattle Breeders Association ...	\$ 27.50
Trophies and medals.	21.70
Office and grounds expense	143.76
Printing and advertising.	35.70
Balance on hand.	395.94
	\$624.60

8th February, 1910.

Examined and found correct,

(Sgd.) FRANCIS R. EXHAM,
Auditor.

THE SHEEP INDUSTRY.

It is greatly regretted that in spite of the fact that sheep will produce larger profits for the amount of money expended and the feed consumed than any other kind of live stock, they are allowed to diminish in number. The number of sheep shipped by rail in

the Province of Alberta during 1909 was 37,024, valued approximately at \$236,292. The wool clip is estimated at about 400,000 pounds, which was sold at an average of about 10 cents per pound. It is to be hoped that the association in conjunction with the Department of Agriculture, will be able to inaugurate some plan which will tend to stimulate the production of sheep in the province. I attach hereto an article by Mr. H. C. McMullen, General Live Stock Agent of the Canadian Pacific Railway, dealing with the profits of mutton and wool in the Province of Alberta. This article appeared in one of our daily papers on February 28th, and gives his views of the situation, and in which he suggests a remedy.

PROFITS IN MUTTON AND WOOL IN THE PROVINCE OF ALBERTA.

By H. C. McMullen, Superintendent C.P.R. Live Stock Shipments.

In the Andalusian Hills there is an old Spanish proverb which says, "Where the sheep sets his foot, there all turns to gold," and this is as true today as it was a thousand years ago. The poor, despised, unlovely, odoriferous little sheep has built more homes and lifted more mortgages than any other of our domestic animals, nor is there any one factor within the entire range of our agricultural possibilities that has contributed so much to the general up-building and continued prosperity of our farm population than has the sheep, yet with the usual base ingratitude of the human race, we are sadly neglecting this, our strongest ally, and relegating him to the obscure and unappreciated position of a mere pot boiler.

The best known and most efficient scavenger of the farm, the inveterate enemy and known destroyer of noxious weeds, we in our mad race after wealth have allowed the wheat lust and our dream of immediate profits to obscure our maturer vision and have with mournful cries of inadequate tariff protection and strange noises of discriminatory trade conditions driven from the range the "one best bet" of the farmer, and with slipshod methods and careless handling of our seed grain question are daily accelerating the work of destruction of those magnificent areas of wheat growing land, that, with the aid of our timid little friend, the sheep, might well be preserved in its virgin state of fertility for generations to come.

Now let us see just what are conditions surrounding the industry in the province we so proudly point to as the premier grain growing section of the Dominion, the province where straw stacks are burned to rid the field of their presence, and grain screenings have as yet none but a nominal value.

In the United States there were on January 1st, 1910, 58,000,000 sheep, valued at (on the farm) \$4.08 per head, including ewes and lambs, or a total of \$236,640,000.

Of this vast total, how many, or rather, how few, were purely range sheep? Idaho, Montana, Wyoming, Utah and the eastern portions of Washington and Oregon now contain practically all of what are known as range bands, amounting to about 20,000,000 head, leaving 38,000,000 head to be divided among the farms of the states given over almost wholly or in part to agriculture.

When the value of the annual output of mutton wethers at \$6.50 and the wool clip at 8 pounds at 20 cents, is computed, it makes a very respectable showing for this humble, unassuming little fellow, but, with us it is different. The province of Alberta, with a territory as large as half a dozen states, with unlimited quantities of native grass, with millions of acres of highly productive hay lands, with hundreds of elevators bursting with grain, and screenings a drug on the market, and having a climate unequalled for the winter of all kinds of stock, is apparently content with less than 200,000 sheep. Now, there must be some reason for this.

With a steady market and constantly growing demand, we are still bringing our mutton, or a large portion of it, from Australia on the west and Nova Scotia on the east. Manitoba and Eastern Saskatchewan have fallen into the same error, and are courting the same danger of weed infested farms and depleted mutton supply, and are paying for it too. Ask a sheep grower the question, Why do you not extend your field of operations, increase your flocks and improve your facilities for handling? and he will likely answer, With wool at 12 cents to 15 cents it does not pay. Experience will demonstrate the fallacy of this, for, eliminating altogether the amount received for wool (which will average, even at low prices, \$1 per head, a sum sufficient to pay all running expenses), the increase in small bands will run to 100 per cent. and with yearlings of good weight fetching \$5 to \$6 per head, and two year olds \$1 to \$1.50 more, considering the capital outlay, it would seem that the sheep is at least not an object of charity.

There is no doubt it will have rather a depressing effect on some of our Montana and Wyoming friends when first they are confronted with the fact that wool of

practically the same grade sells on the south side of an imaginary line for 7 cents to 9 cents more than on the north side, but when the facts are enquired closely into, aside from the vagaries of a customs tariff, which nobody pretends to understand, there will be found some reasons that should explain away at least a part of this large discrepancy.

If the wool growers of the west would follow the example of their friends to the south, and establish a central warehouse where their product could be concentrated in the direct line of transit and there held subject to inspection at a point easily reached by the buyers, much would be done to counteract the difficulty experienced in marketing wool. Wool buyers are but human and follow the lines of least resistance, and if instead of being obliged to travel long distances by rail with additional uncomfortable jaunts through an unknown country behind a leg weary livery train in search for isolated shearing camps, where wool is shown under most depressing conditions, they could with comparatively little delay examine and classify the clips from a dozen or twenty different bands, there would quickly disappear one of the bogeys with which the sheepman is wont to terrify himself.

It is, however, the farmer to whom we must look for the rehabilitation of this most profitable industry, to the man with half a section or more of land, who if content to make haste slowly, and by the diversity of his interests and variety so his crops insures himself against the partial failures that are the inevitable result of the occasional bad year that comes even in such a highly favored country as Alberta.

And when you find this man you will also find in the south field, industriously nibbling away at the stubble, searching for weeds or anything eatable, fifty or seventy-five Cotswolds or Downs.

Respectfully submitted,

E. L. RICHARDSON,
Secretary and Managing Director.

APPENDIX E.

FOURTH ANNUAL REPORT OF THE ALBERTA NATURAL HISTORY SOCIETY.

HON. DUNCAN MARSHALL,
Minister of Agriculture.

SIR,—I have the honour to submit herewith the fourth annual report of the proceedings of the Alberta Natural History Society for the year 1909.

The fourth annual meeting of the society was held in the parlors of the Arlington Hotel, Red Deer, on the evening of November 24th, 1909.

A goodly number of members were present and were called to order by the president, Dr. George.

The minutes of the previous annual meeting were read and confirmed.

Several communications were read from absent members regretting their inability to be present, but expressing their deep interest in the work of the society. Owing to a snow storm in the mountains Mr. N. B. Sanson, of the Government museum at Banff, was prevented from being present.

PRESIDENT'S ADDRESS.

LADIES AND GENTLEMEN,—A year has passed since our last meeting and I beg to welcome you all to this our fourth annual gathering. The very fact of it being our fourth annual meeting shows that we are still working, and though progress may appear slow, yet it is sure, and every year the aims and objects of our society are being talked about throughout the province.

Again we have to thank the Government of Alberta for a renewal of the grant to us also for not only publishing our report for 1907, but also all our reports since our inception. This is a great help to us, as members of the society who do not belong to a branch are enabled to see what the society is doing. The grant enables us to devote all subscriptions from members to the treasuries of the branches to which they belong. This encourages the branches to enlarge their membership roll as the fees thus obtained may be used for buying books or starting local museums. It is my wish to see a branch of this society in every district of the province with a nature library and museum of local specimens. Were this done a complete and perfect natural history could be written. If such a work were compiled from the notes and specimens found in each district it would rank with any of like nature in the world.

I regret to mention that we have lost our honourable president, the Honourable W. T. Finlay, the Minister of Agriculture. He has been most kind to us. This is the first year we have been able to hold meetings of the executive. We have had two meetings, and this is so much better than doing executive work by correspondence alone. To enable this to be done a motion was passed that a sufficient number of the members of the executive shall reside within a certain radius of the home of the president, so that whoever is president will have a quorum within easy reach of the meeting and thus avoid unnecessary travel and expense.

I meant to organize more branches this year and was empowered by the executive to do so, but my professional work has prevented me, nevertheless I endeavoured to form one at Ponoka.

Owing to the expenses of the society not being very great the membership fee has been reduced to fifty cents, as this is a society for acquiring and deceminating useful knowledge, and not for making money. Being a member of the Red Deer Branch I have been enabled to attend and take part in its meetings. I should like to mention that the Family Herald and Weekly Star not only publishes notes on natural history but has made very kindly mention of this society in its columns.

I have not many special notes to offer you, but one I am glad to say was brought to my notice by Mrs. Cassels and is of great interest. I have often deplored the great number of wild ducks that are wounded and not recovered and so left to perish. Mrs. Cassels found two specimens in which the wings had been broken but the fractures had healed by nature, so that they could again fly and enjoy life, until eventually killed for the table.

I am glad to see so many members and new friends present this evening and hope this meeting will result in a large addition to our membership. I would again suggest that members carry a little vest pocket note book, have a daily journal at home in which to enter all they have observed during the day, and that their notes be read at the monthly meetings. One of our members, Mr. Wilton, has gone to the woods for the winter and is unable to be present tonight. He promised to take daily notes, commencing the first day of January.

I wish I could have the bird migration notes from every district in the province next year—notes taken by one and all, as to the arrival and departure of the birds. This is one way of teaching people the different kinds of birds, and noticing what are plentiful one year and scarce another year.

Edmonton has a natural history society of its own. I wish it were a branch of this society, but if not I hope it will be courteous enough to send us some of its reports. I wish Calgary, Macleod, Lethbridge and Medicine Hat would take up the work. If distances were not so great I would be very glad to visit all these points.

I thank you very much for the honour you have done me by making me your president for so many years in succession. My wish is to see the society prosper and become more useful year by year.

At the close of his address Dr. George made a presentation of a handsome volume of Nuttall's "Birds of Canada" accompanied by an address to Captain J. W. Keast, president of the Red Deer branch, as a small token of the appreciation of his faithful work in the interests of the society throughout the year, no matter what the weather he journeyed in about ten miles to preside at meetings, and by his genial manner and kindly encouragement has inspired the members to greater effort. Captain Keast replied in a few well

chosen words, expressing his great interest and pleasure in the work.

Miss Jennie Keast was also presented with a volume of "Holland's Butterflies," the prize given by the provincial society for the best exhibit of pressed wild flowers, leaves, etc., at the Red Deer fair.

FINANCIAL STATEMENT.

The financial statement of the society was read by the secretary-treasurer showing a balance on hand of \$140.05, the disbursements and receipts being as follows:

Receipts.

To cash on hand.. . . .	\$126.40
To subscription per E. Robinson.. . . .	1.00
To subscription per N. B. Sanson.. . . .	.50
To Government grant.. . . .	100.00
	\$227.90

Expenditure.

By paid expenses of banquet for 1908.. . . .	\$16 50
" paid cheque to Red Deer branch	10.00
" paid cheque to Innisfail branch	10 00
" paid stationery.. . . .	1.00
" paid typewriting	2.00
" paid stamps and envelopes.. . . .	3.75
" paid stamps.	.50
" paid letter heads and slips for agricultural reports	6 25
" paid grant to Red Deer branch	25 00
" paid Dr. George trip to Ponoka to organize branch	8.50
" paid stationery for annual banquet	1 00
" paid Mrs. Wanless for expense in preparing Nat- ural History Exhibit.. . . .	3.35
Balance.. . . .	
	140.05

Statement received and adopted.

\$227.90

REPORT OF THE RED DEER BRANCH.

I beg to submit the following report for the Red Deer Branch of the Natural History Society:

On November 28th, 1908, the society met at the City Fire Hall. The following officer bearers were elected for the ensuing year:

Hon. President	Dr. Clarke, M.P.
Hon. Vice-President.. . . .	John T. Moore.
Hon. Vice-President	G. F. Root.
President	Captain J. W. Keast, Red Deer.
Vice-President	John McVicar, Red Deer.
Secretary-Treasurer	H. G. Munro, Red Deer.

The following members were added to the executive: Mrs. Dr. George, Mrs. Cassels and Mrs. Tallman. Messrs. Carswell and Galbraith, editors of the News and Advocate respectfully, were elected honorary members. The roll of members at present stands at thirty-nine, an increase of about twelve.

The financial report for the year is as follows:

Stationery, stamps, etc	\$4 90
Library books, Old Red Sandstone	1.25
Butterfly book.	4 00
Subscription for Family Herald and Weekly Star.	1 00
Livery bill for society's field day	12 50
	\$23 65

Amount on hand in Imperial Bank \$32 05

This year has been marked by a steady contribution of valuable papers from the various members on a variety of subjects of immediate importance and interest, among which might be mentioned—

Birds	By Miss Cole.
Birds I have met	By Mrs. Cassels.
Structure of Birds	By Dr. George.
Botany	By Mrs. Root.
Science of Minerals	By Mrs. McLean.
Geology, the origin of plants	By Mrs. R. L. Gaetz.
The structure of the earth	By Mrs. F. H. Tallman.
Noxious weeds	By Capt. Keast.

One important feature must not be overlooked, namely the encouragement given to the school children for the study of Natural History. The society offered prizes for the best collection of pressed wild flowers, etc., at the Red Deer fair. The first prize took the form of a handsome book of butterflies and was awarded to Miss Jennie Keast for an elegant well assorted and complete exhibit.

The society also took a step forward this year in the introduction of a natural history department at the Red Deer fair. It contained a large assortment of weeds, grasses, flowers, etc., and was very well superintended by the president of the society assisted by Mrs. Dr. George whose book of hand painted wild flowers of Alberta was a prominent feature. The interest shown by visitors in the exhibit well repaid for the trouble taken.

This report should not close without a reference to the society's outings, or field days. This year has two such days on record, the first took place on March 6th, the second on June 12th. As a means of enlarging our understanding and appreciation of nature these journeys were found fruitful and profitable, but as it is not my work to give details on this subject, I append the printed reports of same from the local press.

H. G. MUNRO,
Secretary-Treasurer.

Election of Officers.

Election of officers for the year was proceeded with and resulted as follows:

Hon. President, Hon. Duncan Marshall, Minister of Agriculture.
Hon Vice-President—Geo. Harcourt, Deputy Minister of Agriculture.
President—Dr. Henry George, Red Deer.
Vice-President—R. E. Fiske, Red Deer; Mrs. W. Geary, Innisfail.
Secretary-Treasurer—Miss J. C. McKinnon, Red Deer.

Executive Committee.

Principal W. J. McLean, Red Deer; Inspector, B. F. W. Bryce, Red Deer; N. B. Sanson, Banff; Mrs. Tallman, Red Deer; Mrs. George, Red Deer; Mrs. Wanless, Red Deer; Mrs. Root, Red Deer; Rev. C. W. G. Moore, Red Deer.

Under the head of new business, Mr. Geary offered the notice of motion read at the executive meeting Oct. 29th, 1909. He gave as his reason that if the annual meeting be held in July an annual field day might be held, after which the members could give the result of their observations, and also make investigations as a body.

Mrs. George moved an amendment that the old date be retained. This brought up a lively discussion which resulted in Mr. Geary withdrawing his motion, which was replaced with the following:

On motion of Mrs. George and Mrs. Fiske, that at our first executive meeting a field day be decided upon to be held some time during July.—Carried.

Mr. McLean, principal of the High School, brought up the question of issuing a book on the flora of Alberta. After some discussion it was moved by Mr. Munro, seconded by Mr. Boyce, that the matter be brought to the attention of the executive at their first meeting in 1910.—Carried.

Moved by Mrs. George, seconded by Mr. Geary, that the Secretary-Treasurer get the usual official letter heads printed.—Carried.

The meeting was then adjourned.

The business meeting was preceded by a banquet held in the Arlington Hotel dining room, to which forty-five guests and members sat down.

JULIA C. MCKINNON,
Secretary-Treasurer.

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